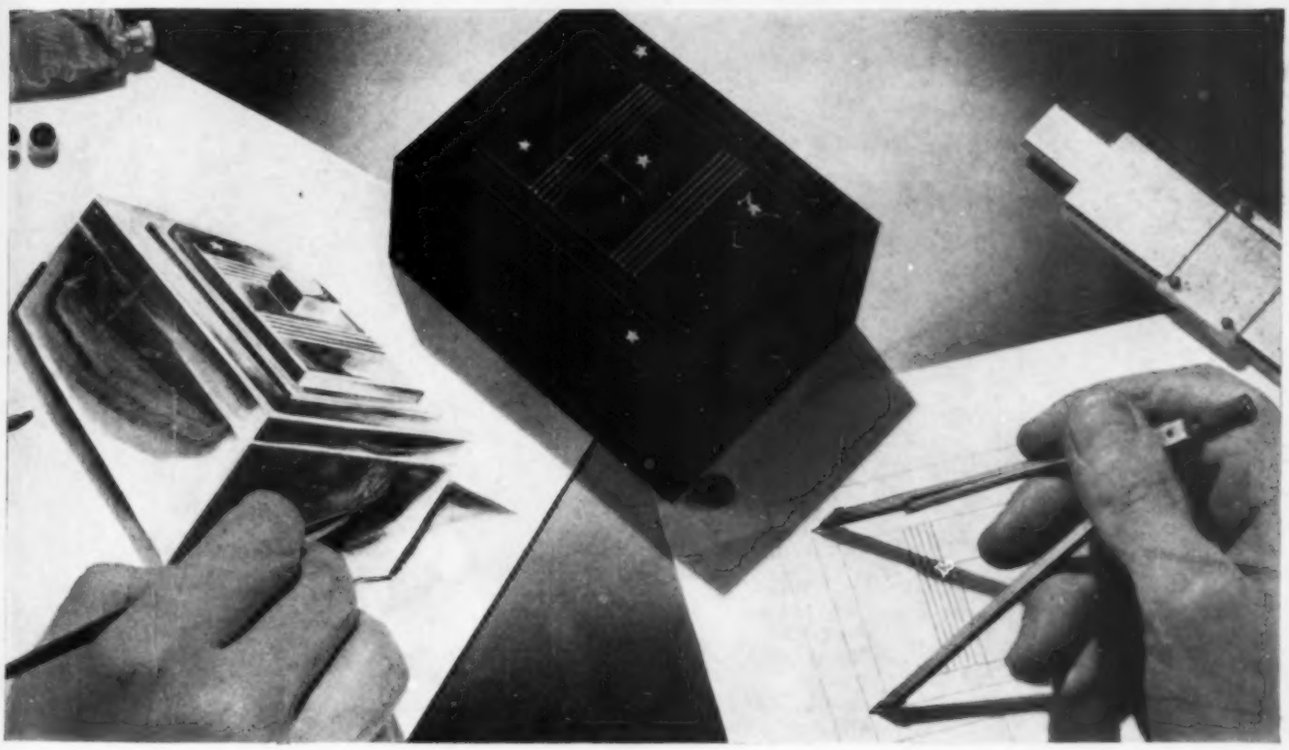
FEB 4 1933

PLASTICS & MOLDED PRODUCTS

Volume 8 NOVEMBER 1932 Number 11



Why the trend of modern design *favors Bakelite Molded*

SIMPLICITY is the keynote of modern design. Smooth, flat surfaces; low relief decoration used with restraint; lustrous, mirror-like finishes;—and all these are readily and economically accomplished with Bakelite Molded. This well defined trend toward simplicity, evident in everything from clock-cases to skyscrapers, opens up new opportunities for the trade-molder. Articles formerly made of other materials may, in these simpler designs, be made more attractively and more economically of Bakelite Molded. With Bakelite Molding Material available in a variety of attractive colors, as well as standard black and brown, practically any specification of the designer may be successfully carried out. Call upon us for assistance whenever you desire.

BAKELITE CORPORATION, 247 Park Avenue, New York, N. Y. . . . . 43 East Ohio Street, Chicago, Ill.
BAKELITE CORPORATION OF CANADA, LIMITED, 163 Dufferin Street, Toronto, Ontario, Canada

BAKELITE

REGISTERED U. S. PAT. OFF.

The registered trade marks shown above distinguish materials manufactured by Bakelite Corporation. Under the capital "B" is the numerical sign for infinity, an unlimited quantity, it symbolizes the infinite number of present and future uses of Bakelite Corporation's products.

THE MATERIAL OF A THOUSAND USES

ONLY the Fittest Shall Survive

WE live in a restless era of constant and unceasing change and the impatient cry of modern civilization "Give us something new and something better" rings in our ears.

To combat these demands, you must turn thumbs down on the obsolete and the unfit--give the public what the public wants.

In your program to meet these cries, consider the use of molded parts -- often times the knowledge of the expert molder will bring changes in design and construction, creating economies and structural improvements.

The combined experience and facilities of a recognized molding organization are available to you. The molders associated in this group played an important part in the engineering and manufacturing of many of the foremost articles offered the public today.

Communications should be addressed to the Secretary, Molded Insulation Section, National Electrical Manufacturers' Association, 570 Lexington Avenue, New York City.

PLASTICS, Vol. 8, No. 11, Nov., 1932. Publication office 49 E. Washington Avenue, Washington, N. J. Executive office 420 Lexington Ave., New York City, N. Y., by the Plastics Publications, Inc., R. C. Gilmore, Jr., President. Subscription price, Domestic $2.00 per year, 25c per copy. Foreign, $3.00 per year. Canada, $3.50 per year. Entered as second-class mail at the Post Office at Washington, N. J., under the act of March, 1879.

PLASTICS & MOLDED PRODUCTS

Reg. U. S. Pat. Off.

Volume 8 **November 1932** **Number 11**

Contents

ENLARGING THE MARKET FOR MOLDED PRODUCTS 415
By L. W. Hutchins

COMING: CREASELESS TEXTILES 417

NEW MATERIAL OPENS NEW MARKETS 418
By H. S. Spencer

PEACE TIME ARTILLERY 419
By J. F. Hopkinson

STOCK MOLD CATALOGUE 421-2

NEWS OF THE INDUSTRY 424

TECHNICAL ABSTRACTS 426

AND NOW, IN CLOSING: 442

A New Feature

Starting in the current issue, we are publishing two pages devoted to stock molds. This series will cover all such molds now in custom molding plants throughout the country, illustrating the finished piece and reproducing the drawing. The pages will be perforated and arranged in such a manner that they can be punched and inserted in any of the materials hand-books now on the market.

At the conclusion, an Index will be issued, and looseleaf binders will be mailed to those of our subscribers who wish to make a separate volume of this important data.

In presenting this series, we are working in collaboration with the New York Representatives, who inaugurated this effort earlier in the year.

We feel that this is a valuable service for our readers, since both the buyer and salesman will be able to determine instantly where stock items can be purchased.

The Publishers.

Carl Marx
Editorial Director

R. C. Gilmore, Jr.
General Manager

Robert C. Gilmore
Secretary

A. C. Blackall, British Correspondent; Heinrich Prehn, German Correspondent.

Plastics and Molded Products is indexed in *Industrial Arts Index* and *Engineering Index Service*

All editorial and advertising communications should be addressed to the business offices, 420 Lexington Avenue, New York, N. Y. Telephone Mohawk 4-2140. Foreign subscription representatives, Willing, Ltd. 133 Moorgate, London, E.C.2 and The A.D.S. Service, Berlin.

Subscription Price, Domestic $2.00, Canadian $3.50, Foreign $3.00 per year. Single copies 25 cents; back issues, 50c. Publication Office, Washington, New Jersey.

Contents Copyrighted, 1932

PLASTICS PUBLICATIONS, INC., PUBLISHER

CASEIN PLASTICS

SHEETS
RODS
and
TUBES

EXTENSIVE stocks of Sheets and Rods in standard sizes and in a wide range of colors to satisfy the most discriminating tastes and individual requirements.

Your orders and inquiries will receive our prompt attention.

American Plastics Corporation
50 Union Square, New York City

PLASTICS & MOLDED PRODUCTS

Reg. U. S. Pat. Off.

Volume 8 NOVEMBER, 1932 Number 11

Enlarging the Market For Molded Products

*By L. W. Hutchins**

Shelden, Morse, Hutchins & Easton

DURING the past twenty years, an enormous quantity and wide variety of articles made of molded materials have been sold in this country. Probably everyone uses one or more of them daily, and dozens of them are to be found in almost every household. And yet I venture to affirm it as a fact that nine users of these articles out of ten have not the slightest idea of what they are made.

I think that this is a situation to which everyone in the molded products industry should give long and serious attention.

The general public is not lacking either in knowledge of or interest in the various materials of construction. We can all recognize and name iron, steel, gold, silver, nickel, chromium, glass, porcelain, pine, oak, walnut, mahogany, hard rubber, onyx, amber, agate, and ivory. We know something about the properties of these materials; we assign definite values to them; we prefer some to others for certain services; and we are usually willing to favor our preferences to the extent of paying extra prices for them.

On the other hand, here is a group of materials—the molded compounds — which, though in general use, and often superior in many respects to the commonly recognized materials, are still, broadly speaking, maintaining an anonymous existence. With the exception of Celluloid, and, possibly, Bakelite, the average man or woman cannot name a single plastic material, or even assert that a given material is a plastic.

Don't Imitate

The reason for this state of affairs is quite clear. The plastics industry as a whole has never endeavored to carry on an individualistic existence. By and large, it has been content to imitate with the utmost cleverness other materials, and to create sales by merely displacing those materials. No attempt has been made on a broad and adequate scale to impress the existence of plastic compounds on the public, or to call attention to their many virtues and points of superiority over other materials. There is not even a distinctive name by which these compounds can be referred to as a class.

Mr. F. E. Brill, of General Plastics, has been pointing out the consequences of a policy of imitation in his series of admirable articles in **Plastics**, and I need not pursue this particular subject further, except to emphasize the necessity for a generally accepted class name for plastics.

How many people are clamoring for "imitation ivory", "imitation wood", "imitation hard-rubber", or "imitation marble?" How far did the cellulose fiber industry get when its product was called "imitation silk?" How far would the exploiters of chromium have gone if they had let their product be known as "imitation nickel?"

Everyone in the group that is assembled here today desires, probably more than any other one thing, to see an increase in the demand for plastic compounds, and yet the industry you represent has failed to do the most elementary things that

*A paper presented at the Nov. 9 luncheon of the New York Molders' Representatives.

must be done to develop a broad and sustained demand—namely, create a word by which your product can be demanded and endow that word with desire-arousing attributes.

In other words, the first step towards enlarging the market for plastic products is—if you will pardon the use of a phrase which has been overworked, but fits in admirably here—the first step is to make the public "plastics conscious".

Many Parallels

After the industry as a whole has won public recognition, it is easier for the various members of the industry to secure acceptance of their products. Every great new industry has made this discovery. To mention a few recent cases, the members of the electrical manufacturing industry, the radio industry, the automotive industry, and the motion picture industry, have found that they can progress far more rapidly by working in unison than they could when each was devoting sole attention to their individual interests.

To secure such recognition is, of course, a task for your industry as an organized body; but you as individuals can press the need of it until the work is done.

Another step that must be taken in order to enlarge the markets for molded products is a change in the approach to these markets.

In our work with the development of the sales of new raw materials and new applications for old materials, we find that much depends on where the initiative is applied—whether at the buying or the selling end.

Where the initiative comes from the buying end—that is to say, when a manufacturer depends upon his customers to work out the applications of his product and depends largely on price as a sales argument—development is almost certain to be slow and erratic. Many a meritorious product is today restricted to the most limited uses because its manufacturers are looking to others to exploit it. On the other hand, when a manufacturer of primary products takes upon himself the burden of making sales to the ultimate consumer, he carries his immediate customers along with him and forces them to use his product whether they are anxious to do so or not.

A classic case is that of ball bearings, which are in general use today not because the manufacturers of automobiles, motors, and other machines, welcomed them with open arms, but because the ballbearing makers sold their product direct to the public.

Cellophane is another example. The makers of Cellophane might have been content to call their product "transparent paper" and to restrict their sales policy to merely supplanting other materials. But they went considerably further. They invested their product with an individuality of its own and then proceeded to work out entirely new merchandizing ideas. The result is the use of Cellophane for many applications where no wrapping or packaging material was ever used before.

Planned Effort

The molded products industry has similar opportunities. Its material is flexible beyond any other. It can be given almost every conceivable form and color, and it can be utilized efficiently for an innumerable number of applications.

By breaking through the bondage of things as they are and creating new things; by avoiding imitations and taking the initiative in styling; by ceasing to depend solely on the merchandizing plans of others, and formulating plans of its own making—by such means, the molded products industry can open up brand new selling fields.

How can this be done? A stroke of genius could do it—just as the wireless telephone industry transformed itself almost overnight by making radio of interest to the general public instead of only to an insignificant number of so-called amateur wireless operators.

Of course, few of us are geniuses, but the ability to think intelligently and plan creatively is a fairly common commodity—and certainly there is enough of it available these days to meet almost any requirements. The chief difficulty frequently lies in the inability to locate, organize, and direct such ability, but just such work is being done for other industries, and it can be done for the molded products industry or any member of it.

The Salesman

I believe that the most important single factor in leading an industry into new lines of progress is the industry's sales force. The salesman is the actual contact between his industry and the outside world. He sees what is happening in other industries; he can determine where his industry can play a part in what others are doing, and, if he has vision, he can realize how his industry can improve on or go beyond what is already being done. If the molded product salesman will first appreciate that his industry has as yet barely scratched the surface of its opportunities, and will make himself receptive to the new ideas that will come to him through active observation and interested study, he will quickly find many ways to enlarge the market for his goods.

In the meantime, it should be the duty of those at headquarters to enlarge their perspective through properly conducted market surveys, and by checking over the suggestions of designers, product research engineers, and others who are engaged in creative thinking.

From such raw materials, plans are formed, and plans are the life of every business.

The alternatives are to sit still and wait for orders to come in

(*Continued on page 430*)

Coming: Creaseless Textiles

Depending on Synthetics, This New British Process May Revolutionize Industry

THE invention of uncreasable textile fabrics, just announced in Manchester, is being hailed throughout the United Kingdom and Western Europe as by far the most important textile invention of the twentieth century. The process involves the permeation of fabric with synthetic resin. In its scope and potentialities, this development may well be likened to some of the revolutionary textile discoveries of the eighteenth and nineteenth centuries, while in the opinion of one leading expert, "it probably transcends in importance any textile invention made within living memory."

Process Details

One of the most striking facts about the discovery—and indeed its chief merit—is the obvious need for it. In conception, though not in execution, the idea of producing creaseless fabrics is simplicity itself. The advantages of uncrushable cloth are universally recognized. For the majority of purposes it is desirable, while for some it is essential. Research work on this problem has been carried out all over the world, the solution at last being discovered, after 14 years' work, by the research department of Tootal, Broadhurst, Lee Co., Ltd., of Glossop. Work on the process was backed by hundreds of thousands of dollars.

The new process consists in impregnating cotton or rayon fabric with a synthetic resin solution. This synthetic condensation product is pressed into the cotton fibre or rayon filament and permeates it, much like dye permeates cloth, and is later converted into elastic resin by heating. The process is the last operation to which the cloth is subjected. In other words, the material is given anti-crease treatment after bleaching, dyeing, printing, and finishing. The result is that the cloth becomes as creaseless as it is possible for a textile material to be. The process can be applied to all types of cotton fabrics, to viscose and to the types of rayon which are regenerated celluloses. However, it is unsuitable for application to cellulose acetate yarn.

Cotton fabric is padded with a liquor consisting of 20 parts of 40 per cent. formaldehyde, 10 parts of urea, 5 parts of boric acid, and 60 parts of water, maintained at ordinary temperature and then dried at 130° C. for about half an hour. Under these conditions the urea and formaldehyde condense under the catalytic influence of the boric acid to form a resin within the cotton fibres. Afterwards, loosely adhering resin is removed by a boiling soap treatment. Alternatively, cotton fabric is mercerized in the usual manner and after washing out the alkali, but before drying, it is impregnated with a mixture of 100 parts of phenol, 100 parts of 40 per cent formaldehyde, and 4 parts of potassium carbonate, which is boiled for 5 minutes, then rapidly cooled. The fabric is then stentered on a hot air stentering machine such that it is dried at a low temperature, being afterwards heated for two minutes at 170°C. and finally soaped.

A cataylst is generally required in the formation of formaldehyde synthetic resins and this may be acidic or alkaline. In the case of cotton, tendering occurs when this fibre is heated with an acid so that it is preferable to use an alkaline catalyst as indicated in the second example described above. It is known, however, that formaldehyde resins are liable to become colored when treated with alkalis, so that great care must be exercised in choosing the resin to be applied to white cotton materials. Presumably a colorless resin has been discovered for this purpose. Examination of fabric made uncreasable by the new process indicates that a formaldehyde resin is being utilized. Synthetic resins, too, are liable to harden during prolonged exposure to light or storage, and this point will require attention, since it would be fatal to the success of the new process if the uncreasable fabrics so produced gradually lost this property.

Many Advantages

The invention, now being exploited commercially in Tootal's Glossop works, has been applied to all-cotton fabrics, to rayon and cotton mixtures, and to all-rayon fabrics. An examination of treated and untreated fabrics shows that when crushed the former do not exhibit the latter's hard, sharp creases, while the few creases which have formed are only superficial and fall out in a few minutes. In short, treated cotton or rayon cloth behaves like a silk or woolen fabric. The process also adds weight to the material. It is claimed to increase the dry strength by 30 to 50

(Continued on page 432)

New Material Opens New Markets

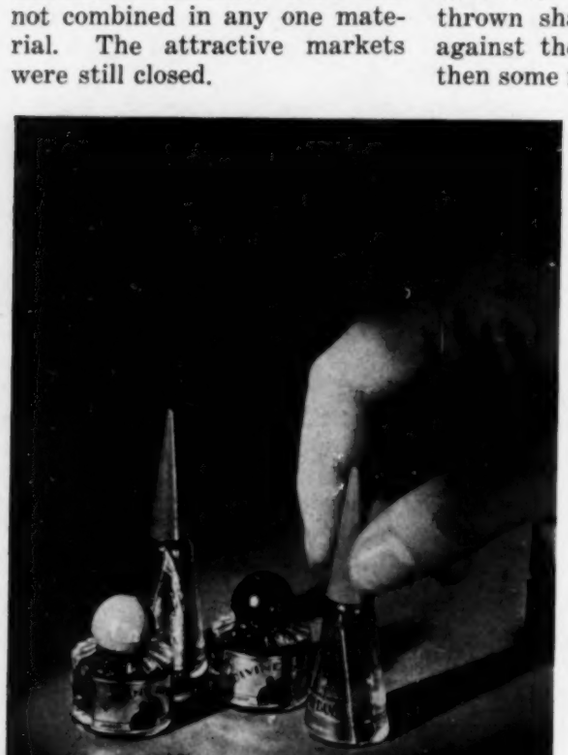
By H. S. Spencer

FOR years there have been several profitable markets closed to molded plastics because of inherent limitations of the then-available materials. Despite all of the research carried on by raw material manufacturers, the problems remained unsolved. These limitations were Color and Resistance.

Oddly enough, these two problems were overcome—separately—months ago. With the advent of acid-resisting phenolic compounds, plastic materials widened their field of usefulness quite a bit, and when the colorful ureas came into existence, their soft tones and pastels found ready acceptance for other uses. But Color and Chemical Resistance were still not combined in any one material. The attractive markets were still closed.

Last month the marriage of Color and Resistance was announced — the ceremony taking place in a new phenolic material called the Durez 1406 series, perfected by General Plastics' chemists. Of course it was consummated months ago in the laboratory, but no public annnouncement was made until tests had been completed over a long period of time, both in the plants of molders and in our own plant and laboratory. Results were more than satisfactory.

In tests at one molding plant, for instance, the strength of the material was demonstrated forcibly in molding it over a wooden core — enough in itself to set up severe strains in the material. Then the piece was thrown sharply and repeatedly against the concrete floor, and then some more against the concrete wall. There were no cracks or fractures. As for resistance, another manufacturer carrying on extensive tests with all the molded materials he could find, discovered that these phenolic colors were the only ones which would stand up at all under normal conditions of water, acids, alkalis, grease, and oils. Many of the other materials stood up well for a few months and then went to pieces. The smoothness and clearness of the colors speak for themselves. As for molding qualities, surprisingly enough it was found to mold just as quickly and easily as the regular phenolics, and there is no deterioration upon standing, nor must the material be used with any particular finesse.



Two of the most unusual and refreshing packages in the stores today are these almost microscopic bottles of Divine Kiss and La-Danse Perfume, just released by Joubert Cie, New York. Both containers use continuous thread Durez caps, molded by Colt's Patent Fire Arms Mfg. Co., shaped in one case to carry out the conical shape of the bottle, and in the other case to combine the very pleasing geometric forms of sphere and cylinder. Black, red and green are the colors of the caps used.

Containers Now Feasible

Among others, the drug and cosmetic container market now presents itself for development. The industry will remember the false start that was made in this direction a few years ago, even before the coming of the darker acid-resisting colors, and the set-back which attended the failure of the ordinary materials. A repetition of this failure must be guarded against, for it could discredit molded jars for all time. Properly developed, it will provide molders with a lucrative although limited field for years. The use of standard molded jars by small or provincial drug packers should be definitely discouraged, since it will surround plastic materials with an aura of cheapness. For that matter, it has been clearly demonstrated in the past that

(Continued on page 431)

Peace Time Artillery

By F. J. Hopkinson,

Eastman Kodak Co.

MANY industries have been built up based upon some application or other of the explosive properties, or rather, the ability for sudden expansion, of high pressure steam. Among these may be mentioned the preparation of "food shot from guns", in which wheat or rice, after being heated for some time with steam under high temperature and pressure, is subjected to the terrific expansion of suddenly released steam. The wheat or rice grains are "blown up" to kernels eight or ten times their usual size. The first record of such a process is that disclosed in Anderson's patent[1] taken out in 1902, wherein the expansive force of suddenly released steam is employed for the swelling or puffing of starch or starch-containing materials. Subsequent patents[2&3] by the same author cover the preparation of an adhesive from the disintegrated starch. Anderson even claims a similar process[4] for the preparation of a porous, spongy food material, wherein a dough is subjected to the expansive force of suddenly released steam.

Shot from guns", is a phrase that has popularized cereal. This process, employed on various cellulosic materials, is traced and described by Mr. Hopkinson in this article.

Gun Important

In 1911 Anderson continued his work on swelling of starch granules and patented such a treatment[5] for the preparation of a dry degerminated spongy Indian corn product. This was closely followed by a series of patents[6 to 12] by the same author in 1912, covering the preparation of "puffed" cereal grains of all sorts, involving again the simple idea of subjecting the grains to the disruptive force of suddenly released steam contained therein at the time of release in pressure. These patents are more descriptive as regards the equipment to be employed, U. S. Patent No. 1,035,840 showing in detail a complete plant for the preparation of a material such as "puffed" rice. The most important piece of equipment is, of course, the gun. In the patents under discussion, this gun may be of rather small cross section and quite long by comparison to its internal diameter. It may be supported on a trunnion at one end, the other end containing the quick opening valve mechanism which, in this case, consists of a heavily constructed hinged cover with a locking mechanism. A spring mounted buffer block is provided to limit the motion of the valve when it flies open. The cover or closure may have a soft metal gasket[12] in order to effect perfect closure of the gun. Other units in the equipment thus described consist of an oven or multiplicity thereof wherein one or more guns, charged with cereal and tightly closed, may be heated. An enclosed wire cage may also be installed, providing a restricted space in which the puffed cereal grains may be discharged.

The explosive power of high pressure steam is also used industrially as a means of separating cellulosic material from its bonding material or lignin. In this process, wood chips are heated with water under high temperature and pressure in small retorts or guns. Upon the sudden opening of the breech block, instant vaporization of the water takes place. The material is ejected from the gun, and the wood chips, now thoroughly disintegrated and blown apart by the sudden release in pressure, are completely converted into a pulpy mass. Lyman's patent [13] in 1858 is practically the first disclosure of the use of the basic principle under consideration for the disintegration of a complex cellulosic material such as wood, the apparatus described consisting merely of a long cylinder or gun closed at one end and having a cap held in place by a lever and trigger arrangement at the other end. In 1867 Russell[14] patented the formation of a paper or paperboard from steam-disintegrated cellulosic material, having found it unnecessary to treat the fibres chemically, the beating accomplished in a typical rag engine being sufficient to cause the pulp fibres to felt.

Valve Construction

The construction of suitable guns for puffing cereals or disintegrating wood offered many difficulties, the chief of which was the construction of the valve mechanism. In 1869 Allen patented[15] a discharge valve, hinged at one end and having a trigger unlocking mechanism at the other end. This valve, having a curved outer surface, en-

gaged a striking block supported by a heavy rubber or other elastic block. As the valve is released, a sudden impact of terrific force is avoided, the motion of the valve being gradually restrained by the increasing resistance of the rubber block under compression. Somewhat the same principle but employed in a different manner is disclosed in Russell's patent[16], wherein the discharge valve contains a roller which engages a slightly elliptical block backed up by rubber or other elastic material.

Mason's Process

While not the first processes for the disintegration of cellulosic material such as wood, probably the first of any great industrial importance were those patented[17 to 21] by Mason. In these processes, the wood is reduced to small chips, such as are ordinarily used in chemical digestors, and charged into a high pressure cylinder or gun. After steaming for a short time at about 300 pounds per sq. in., the pressure is increased to 600 pounds or above for a few seconds whereupon the discharge valve is opened. The high temperature under comparatively short time is said to produce a disintegrated pulp of excellent color and the process is particularly adapted to resinous woods such as Southern Pine.

An interesting feature of the Mason patents is the ingenious valve mechanism by which the pressure within the gun is released. Contrary to previous patents, the pressure within the gun is not instantaneously reduced by opening of a relatively large valve, but instead the mass of steam and chips is extruded through a relatively small opening in the end of the cylinder. In one instance this opening is closed by means of a hydraulically operated, balanced piston valve[17]. Another type of valve mechanism[19] consists of a cylinder mounted within the end of the compression cylinder or gun and having four slotted openings. This valve has an inner sleeve also having four slotted openings. The valve is operated by rotating the inner sleeve, the valve being open when the openings in the inner and outer portion of the valve coincide. Such a mechanism obviates the difficulty of controlling and bringing to a position of rest a large and heavy instantaneously opening valve mechanism, and inasmuch as the valve is balanced, all tendency to bind or stick is eliminated so that it may be operated readily even under extremely high internal pressures.

In the Mason process, the wood chips may be subjected to a range of temperatures and pressures depending upon the extent of disintegration desired in the product. In any case, the pulpy mass may be formed into rough sheets on a paper machine, compressed under heat and pressure, and dried to form wallboard or light, strong wooden panels useful for many purposes. Depending upon the degree of pressure employed, a more or less porous insulating board[20] may be formed, or under very high pressure, a dense, hard, grainless panel board[21] may be produced. The natural lignin content of the wood is not removed for the preparation of such products but instead acts as the natural binder for the cellulose fibres.

Reaction

While the disruptive force of steam has many applications of which the above are typical, but few may be found where it is used in just such a manner so as to hasten or improve chemical reaction. In 1920 Anchors[22] proposed the nitration of starch which has been subjected to a puffing or swelling process as is ordinarily done with rice for food purposes. Due to the porosity of the resulting starch grain, rapid penetration of the nitrating acids is claimed, a more uniform product resulting. Subsequent treatment with sodium soap is claimed to render the product stable[22&23].

The Stock-Mold Data on page 421 ➡ is explained editorially on page 442.
Please turn there first.

Treating Cellulose

Similar treatments to those described above have been found to be effective in the preparation of cellulose for further chemical treatment. Although cellulose or cotton fiber appears to possess a large reactive surface, it does resist chemical treatment to a surprising degree, witness the stability and longevity of a good quality of rag bond paper. One wonders how an explosive force can have much effect upon an article of such small dimension as a single cotton fiber, until a microscopic examination discloses the amazing fact that through the very fine cotton fiber there passes a still smaller passage or canal. The cotton, vacuumized for the more complete removal from the central canal of moisture vapor and gases, may now be subjected to high pressure steam or to water which may be heated to a point insufficient to vaporize it at high pressure. Upon sudden release of the pressure within the chamber, the high pressure steam or water therein under high pressure, is suddenly set free. It increases enormously in volume with terrific disruptive force. What happens to the steam or water in the central canal of the cotton fiber—it also expands, and, without sufficient means of egress, bursts the wall of the cotton fiber, thereby presenting a much greater surface for subsequent chemical action.

Much the same equipment that has been described elsewhere in this article may be used in preparation of cellulose for further chemical treatment, and after being thus shot from

(Continued on page 430)

Stock Mold Catalog

Listing, with specifications, all Stock Molds available through recognized custom molding organizations.

Published and Copyright,
October, 1932, by
Plastics Publications, Inc.,
420 Lexington Ave., New York

M-391

Knob

Furnished in black or colors with 6/32" or 8/32" brass bushing only.

M-391

M-466

Knob

Furnished in black or colors with brass bushing. Standard thread. 6/32" or 8/32".

M-466

M-170C

Knob

Furnished in black or colors. ¼" shank, with ¼"-20 thread brass insert.

M-170C

M-170F

Knob

Furnished in black or colors; no insert; ⅜" beveled shanks with standard molded ⅜"-24 thread.

M-170F

M-170A

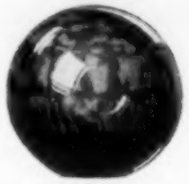
Knob

Furnished in black or colors. With or without bushing. ½" shank with ⅜"-16 thread or ⅜"-24 thread brass bushing.

M-170A

Parts from Stock Molds owned by Chicago Molded Products Corp. 2145 Walnut St., Chicago, Ill.

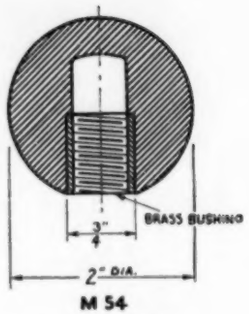
CHICAGO MOULDED PROD. CORP.



M-54
Gear Shift Ball

Gear Shift Ball

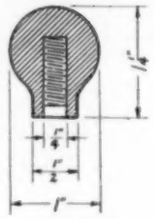
Furnished in black or colors, with or without brass bushing. Standard thread, $\frac{5}{8}$-18. Additional charge for special bushings.



M-721

Knob

Furnished in black or colors. Molded thread only, $\frac{1}{4}$"-20 or $\frac{5}{16}$"-18 thread.

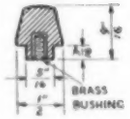


M-721

M-46

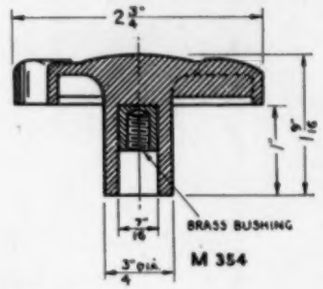
Knob

Furnished in black or colors with 6/32" brass bushing only.



M-46

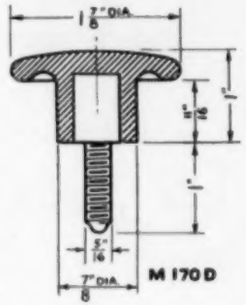
M-354



Control Knob

For wringer tension screw or electrical charging boards. Five point knob, in black or color, with plain top or with arrow, or with your name plate. Can also be supplied with shank ½" long. Furnished with or without brass bushing. Standard threads, ¼"-20; $\frac{5}{16}$"-18 or with $\frac{5}{16}$" hole, no thread.

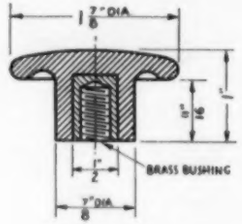
M-170D



Knob

Furnished in black or colors. $1\frac{1}{8}$" shank, with $\frac{5}{16}$"-18 thread. Male insert.

M-170B



M-170B

Knob

Furnished in black or colors. $1\frac{1}{8}$" shank, with $\frac{5}{16}$"-18 thread brass insert.

CALCO BLACKS

If you are looking for something exceptional and unusual in Condensation Blacks—Why not try one of our new types.

CALCO CONDENSATION BLACK 1500V
CALCO CONDENSATION BLACK 1630M

These two Blacks are new developments of our Research Department. Condensation Black 1500V has been designed especially for use in phenolic resin varnishes and has the advantage of being highly soluble under all conditions.

Condensation Black 1630M is designed for use in moulding powder only, producing a more powerful and brighter black.

Calco

The Calco Chemical Company

INCORPORATED

A Unit of American Cyanamid Company

BOUND BROOK, N. J.

Boston Philadelphia New York Charlotte

NEWS *of the* INDUSTRY

THE news of Frank E. Layman's appointment to the Sherka Chemical Co., 75 West St., New York, is an interesting item in the trade. Mr. Layman succeeds Mr. E. R. Dick, recently resigned, and will be in charge of the company's affairs in its relations with the industry.

Mr. Layman brings with him to his now position a long and varied experience in technical matters intimately related to the production, and especially the practical use, of chemicals in manufacture which should be very valuable. Educated at Ohio State University, he has the Degree of Mining Engineer. On leaving college he obtained a considerable experience in technical positions, mainly in connection with the ceramic industry. Later he became manager of the Molded Insulation Department of the Cutler-Hammer Mfg. Co., of Milwaukee, Wis. For many years Mr. Layman was connected with the Bakelite Corporation, and for about four years has done consulting work which has brought him into contact with all sorts of conditions and problems which have a distinct and useful bearing on his present connection.

The Sherka Chemical Company represents the well-known Schering-Kahlbaum A. G., of Berlin, Germany, for chemicals in the United States as the Schering Corporation represents the same institution for pharmaceutical preparations. The German company enjoys a fine prestige in the industry, and through the Sherka Chemical Co., specializes particularly on Synthetic Camphor, Terpineol, Thymol, Synthetic Menthol and Urea.

Hercules to Spend $135,000 At Jersey Plant

INSTALLATION of new boilers and modern power equipment and construction of additional power housing facilities at its Kenvil, New Jersey explosives plant is announced by Hercules Powder Company.

$135,000 has been appropriated for the project which will proceed at once, according to George E. Ramer, the company's chief engineer. The improvements are being made at this time because of the economies that will be effected in operation and because of the present low prices of materials, labor, and equipment, it is stated.

Two new 500 horsepower steam boilers, with auxiliary equipment will be installed in a new steel building immediately adjacent to the present engine room of the plant. A new turbine for high pressure steam will also be installed. The new project is expected to bring substantial economies in power costs.

The Kenvil plant is Hercules' largest explosives and sporting powder plant.

Adopts Five-Day Week

MONSANTO Chemical Works and its domestic subsidiaries have adopted the five-day week.

In announcing this move, Edgar M. Queeny, President, said:

"It is our belief that in the sharing of available work among a larger number of men and women lies one of the remedies for existing difficulties."

New Coast Representative

AS West Coast agents for Bakelite Synthetic Resins sold to the paint and varnish industry, Martin, Hoyt & Milne, have appointed as their Portland, Oregon, representative, Mr. E. H. Morgan, 409 Gerlinger Building, Portland, Oregon.

Large Steam Platen Press

THE Lake Erie Engineering Corporation, manufacturers of hydraulic machinery, have just shipped what they claim is the heaviest tonnage steam platen press ever built.

This press applied the enormous pressure of 10,000 tons or 20,000,000 pounds on the platens. This pressure was affected by the means of twelve (12) 18" rams at 6,500 pounds per square inch hydraulic pressure.

The press is of the three opening type with four steam plates 48" wide by 144" long.

The press is of steel construction throughout with the exception of the semi-steel rams. The columns are of a special alloy steel showing ultimate tensile strength of over 120,000 pounds from test bars.

The press was put through an exhaustive test in their shops and the deflections of the platens accurately measured. The greatest deflections anywhere in the platens did not exceed .004" under actual working loads as measured by customer's inspector. This is an unusually low deflection for such tonnage press and is a good example of exceptional design and workmanship on such a large and massive piece of equipment.

"Midget" Banbury Mixer

THE new Midget Size Banbury Mixer recently introduced by Farrel-Birmingham Company, Inc., Ansonia, Conn., is designed to provide a machine of smaller capacity than existing laboratory models, for

REPORTED INDUSTRIAL STATISTICS

	1932				1931				
(Billings in Dollars)	June	July	August	September	June	July	August	September	Number of Companies
Molded Insulation	349,937.85	289,122.83	305,452.50	362,455.25	504,016.87	496,211.58	458,046.70	518,502.26	20
Laminated Phenolic	144,587.75	327,912.97	284,779.35	375,848.77	633,320.71	618,820.13	632,475.50	639,267.28	8
(Shipments in Pounds)									
Pyroxylin, all forms	675,320	629,971	842,408	1,137,196	1,191,683	1,208,397	1,238,563	1,419,556	9

special experimental work on rubber, asphaltic materials, phenolic condensation products, resinous compounds, paints, lacquers and other plastic materials.

It is designed on the same general principle as the larger laboratory and production Banburys to produce results in the laboratory which can later be depulicated in the factory. Its small size and simplified construction permits its sale at a very low price.

The Midget Banbury is hardly larger than the motor that drives it. It has a capacity of 90 to 150 grams, depending on the specific gravity of the stock. The complete unit, including the motor with integral gear reduction weighs only 350 lbs., packed for shipment. The overall dimensions are as follows: length 30⅝" width 17⅜"; height 11". The machine is designed to be mounted on a bench or table of suitable height for convenient operation.

The two rotors of the Midget Banbury are of exactly the same type as the larger commercial machines. The mixing chamber has only one opening, that being in the top, through which ingredients are charged and the mixed stock discharged. The mixed batch is quickly discharged by tilting the mixer by means of the handle attached to the back of the machine. A floating weight is provided to keep the stock within the sphere of mixing action. Sheeting of the stock after mixing is accomplished by a pair of rolls mounted on extensions of the rotor shafts. The motor and integral gear unit are connected to the mixer by a flexible coupling. The wide range of speeds obtained from the motor makes the machine particularly effective for experimental work.

As special features, when required, the mixing chamber can be arranged for vacuum or pressure and for heating and cooling.

(*Continued on page 436*)

NATIONAL

RESIN COLORS

BRILLIANT
UNIFORM

•

A COMPLETE LINE OF COLORS
SPECIALLY MANUFACTURED
FOR PLASTIC COMPOUNDS

•

WE INVITE YOUR PROBLEMS

•

NATIONAL ANILINE &
CHEMICAL COMPANY, INC.
40 RECTOR ST., NEW YORK, N. Y.
BOSTON PHILADELPHIA
PROVIDENCE CHARLOTTE
CHICAGO SAN FRANCISCO
TORONTO

NATIONAL N DYES

RESIN DYES

TECHNICAL ABSTRACT SECTION

A Review of Literature and Patents

Process of Preparing Stable Cellulose ester Solutions. Emil Hubert, of Elberfeld, Alex Rost-Grande, of Dormagen, and Karl Weisbold, of Elberfeld, Germany, Assignors to I. G. Farbenindustrie Aktiengellschaft, of Frankfort-on-the-Main, Germany, a Corporation of Germany. U. S. P. 1,860,461; May 31, 1932.

The process of preparing cellulose ester solutions which comprises mixing at normal temperature a solution obtainable by esterifying cellulose in a mixture of glacial acetic acid, acetic anhydride and sulfuric acid dissolved in acetic acid of about 50% strength containing magnesium acetate in a somewhat greater amount than is necessary to react with the total amount of sulfuric acid present in the esterifying mixture, diluting the mixture with diluted acetic acid so that the mixture finally contains acetic acid of 65-75% strength and 8-10% of acetyl-cellulose, allowing the magnesium sulfate formed to crystallize and separating it from the solution.

Hardened Artificial Materials and Process of Preparing Them. Arthus Voss, of Franfort-on-the-Main-Hochst, Germany, Assignor to I. G. Farbenindustrie Aktiengellschaft, of Frankfort-on-the-Main, Germany. U. S. P. 1,860,441; May 31, 1932.

As new products, insoluble and infusible resins containing chemically entirely indifferent carboxyl groups, substantially identical with resins obtainable by treating phenolaldehyde condensation products containing carboxyl groups with ammonia and heating the water-soluble compounds thus obtained to a temperature of between 100° C. and 200° C.

As new products insoluble and infusible resins containing chemically entirely indifferent carboxyl groups, substantially identical with resins obtainable by treating condensation products obtained from the condensation product of phenol and formaldehyde and chloracetic acid with ammonia and heating the water-soluble compounds thus obtained to a temperature of between 100° C. and 200° C.

Method of Making Laminated Insulation Explosion Chamber Members. Charles F. Petersin, of Scotia, N. Y., Assignor to General Electric Company, a Corporation of New York. U. S. P. 1,860,158; May 24, 1932.

The method of constructing an insulation explosion chamber member for a liquid break switch which comprises applying successive strips of fibrous material impregnated with a resinous condensation product having slitted edge portions to the sides of a dummy having the appropriate form for the interior of the chamber, forming inwardly over one end of the dummy certain of said slitted edge portions to make the bottom of the chamber member and simultaneously forming over outwardly the other slitted edge portions to make the attaching flange of the chamber and applying heat and pressure thereto.

Artificial Denture and Manufacture Thereof. Israel John Dresch, of Toledo, Ohio, Assignor to Prosthetic Products, Inc., of New York, N. Y., a Corporation of New York. U. S. P. 1,862,336; June 7, 1932.

In an artificial denture, an improved translucent water-resistant product comprising a glycerine-phthalic anhydride resin having a relatively small amount of an inert inorganic filler in a finely divided state uniformly distributed therethrough, said inert filler being heat resistant and having a low water absorption ratio.

Method of Manufacturing Cellulose. Joaquin Julio de la Roza, Sr., of Tuinucu, Cuba. U. S. P. 1,862,177; June 7, 1932.

A method of treating sugar cane fiber to produce cellulose, which includes, treating the fiber with a dilute sulphurous acid solution, storing the fiber, withdrawing the fiber from storage, washing the fiber, and treating the fiber with an alkaline solution.

Laminated Plastic Material. Frank T. Lahey, of Monroe, New York. U. S. P. 1,861,663; June 7, 1932.

An article of manufacture comprising in combination a plurality of superposed plies of differently colored fiber and rubber composition, the material of each ply extending through perforations of another, said plies being bonded together and vulcanized in place.

The method of producing sheet material in color designs, which comprises superposing a sheet of colored fiber and vulcanizable rubber composition between two other differently colored sheets of similar composition, compressing the sheets to press the material of the interposed sheet through the materials of the other sheets at selected places to produce designs at the exposed surfaces, vulcanizing the sheets thus assembled, and brushing the exposed surfaces to expose the fiber.

Moldable Composition and Molded Product Obtained Therefrom. Ira A. Hurst, of Schenectady, New York, Assignor to General Electric Company, a Corporation of New York. U. S. P. 1,863,540; June 14, 1932.

A composition hot moldable to an infusible product comprising cottonseed hulls and heat convertible synthetic resin, the proportion of resin in the composition being not more than approximately 30% by weight.

Process for the Production of Artificial Masses. Georg Walter, of Vienna, Austria, Assignor to I. G. Farbenindustrie Aktien-Gesellschaft, of Frankfort-on-the-Main, Germany, a Corporation of Germany. U. S. P. 7,863,426; June 14, 1932.

The process for the production of clear, transparent artificial masses which comprises carefully heating a methylol derivative of urea in the absence of any solvent as quickly as possible at least to the melting point, while avoiding any superheating, and further heating the melt until it is viscous but may still be cast.

The process for the production of clear, transparent artificial masses which comprises carefully heating dimethylol urea with the addition of a polymer of formaldehyde and of a non-acid fluxing agent, but in the absence of any solvent as quickly as possible at least to 126°C. and continuing the heating to a temperature not higher than 140°C. until the melt is viscous but may still be cast.

The process for the production of clear, transparent artificial masses which comprises carefully heating dimethylol urea with the addition of thiourea, an alkali metal formate and paraformaldehyde, but in the absence of any solvent as quickly as possible at least to 126°C. and continuing the heating to a temperature not higher than 140°C., until the melt is viscous but may still be cast.

Process of Making Collodial Dispersions of Insoluble Colors in Organic Materials. Anthony James Hailwood, Arnold Shepherdson, and Alexander Stewart, of Blackley, Manchester, England, Assignors to Imperial Chemical Industries Limited, of London, England. U. S. P. 1,863,331; June 14, 1932.

In the manufacture of colored organic materials having colloidally dispersed therein an insoluble color, the process which comprises forming an aqueous emulsion and dispersion comprising water, an emulsified water insoluble organic liquid material and a colloidally dispersed insoluble color, breaking the said emulsion and separating the water from the said organic material and said insoluble color, thus producing a colored mass of organic material having colloidally dispersed therein said insoluble color.

Compositions Containing Nitrocellulose. Theodore F. Bradley, of Westfield, New Jersey. U. S. P. 1,863,-264; June 14, 1932.

A coating composition containing nitro-cellulose and a resinous composition derived from glycerol, phthalic anhydride and castor oil.

Decorated Laminated Product and Process of Manufacture. John D. Cochrane, Jr., of Cincinnati, Ohio, Assignor to the Formica Insulation Company, of Cincinnati, Ohio, a Corporation of Ohio. U. S. P. 1,863,239; June 14, 1932.

In a process of manufacturing a decorated laminated phenolic condensation product, the steps which comprise: consolidating under heat and pressure a main body of sheets of fabric impregnated with phenolic condensation product, a superposed opaque sheet impregnated with phenolic condensation product, and a printed surfact sheet impregnated with clear phenolic condensation product and of transparent character.

Manufacture of Ether Derivatives of Carbohydrates Like Cellulose. Arlie W. Schorger, of Madison, Wisconsin, Assignor to C. F. Burgess Laboratories, Inc., of Madison, Wisconsin, A Corporation of Delaware. U. S. P. 1,863,208; June 14, 1932.

The process of making new cellulose derivatives which comprise first treating cellulosic substances with caustic alkali to form alkali cellulose, then reacting said alkali cellulose with a non-substituted ether-forming olefine oxide, and finally isolating the resulting compound of cellulose, substantially as described.

Surface Ornamentation and Method of Producing Same. John J. Weber, of Wilmette, Illinois, Assignor to J. H. Jochum, Jr., of Chicago, Illinois. U. S. P. 1,862,875; June 14, 1932.

In a process of making artificial stone, the steps of producing different colored batches of a plastic material, combining the batches into a single pile without mixing the same, and applying irregular portions from said pile over irregular areas of a carrier until the entire surface of the carrier is coated with said mass and with the surface which is to constitute the front surface of the product exposed, roughening portions of the said surface of the mass while still in plastic condition and letting it harden.

Manufacture of Cellulose Esters. Henry Dreyfus, of London, England. U. S. P. 1,862,589; June 14, 1932.

Process for the manufacture of cellulose esters characterized in that cellulose is esterified by means of an esterification medium comprising 3 gram molecules of fatty acid anhydride for each gram molecule of cellulose calculated as $C_6H_{10}O_5$, a further quantity of an organic liquid not less than 8 times the weight of the cellulose, said organic liquid functioning as solvent and comprising an amount of fatty acid anhydride in addition to the three molecular proportions above specified and a quantity of condensing agent so adjusted in accordance with the quantity of fatty acid anhydride that cellulose esters of very high viscosity are produced.

Method of Making Coated Articles. Emil C. Loetscher, of Dubuque, Iowa. U. S. P. 1,863,799; June 21, 1932.

The method of making a coated object, consisting in forming an oversize compressible base of matted fibers, varnishing the surface of the same with only slight interior penetration with a liquid synthetic resin phenolic condensation product that flows under heat and pressure and has high penetrating characteristic, permitting the varnish to dry, applying to the varnished base a synthetic resin condensation product of formaldehyde and a urea in powder form that flows under heat and pressure and has penetrating characteristic below that of the varnish and which is capable of forming a bond with the varnish coating and is capable of producing alone a white coating or when tinted of producing black or intermediate color shades, and then compressing the double coated base to size under heat.

Apparatus for Manufacturing Seamless Flexible Tubes From Cellulose Solutions. Richard Weingand, of Bornlitz, near Walsrode, Germany. U. S. P. 1,864,006; June 21, 1932.

In an apparatus for the continuous manufacture of seamless flexible tubes from cellulose solutions comprising an annular nozzle, a conduit for supplying cellulose solution to said nozzle, a guide member for the cellulose solution issuing from said nozzle, a tube traversing said nozzle and supplying precipitant to said guide member and a vessel containing a fixing bath, the guide member being arranged beneath the annular nozzle and the vessel being situated below the guide member.

Manufacture of Cellulosic Materials. Henry A. Gardner, of Washington, District of Columbia. U. S. P. 1,864,428; June 21, 1932.

In the manufacture of strengthened cellulosic materials by extrusion of a cellulosic solution, the step which comprises admixing with the said cellulosic solution prior to extrusion insoluble polymerization products of an aldehyde, the said polymerization products being solids at ordinary temperatures.

Regenerated Cellulose Films and Sheets. Henry A. Gardner, of Washington, District of Columbia. U. S. P. 1,864,427; June 21, 1932.

The process of lessening the hygroscopicity of regenerated cellulose sheets and films prepared by extrusion of alkaline cellulose solutions into acid baths which comprises dissolving an aryl sulfo amid resin, the aryl group being a nucleus of the class consisting of benzene, toluene and xylene nuclei, in the alkali of said alkaline solution, extruding the alkaline solution thus obtained into an acid bath and coprecipitating said resin and the cellulose.

As new articles, coated sheets and films comprising regenerated cellulose containing a coprecipitated resin dispersed therein and having on the surface thereof a coating comprising a cellulose ester and a toluene sulfo amid resin.

Condensation Products of Aliphatic Aldehyde Bisulphite Compounds with Primary Aromatic Amines and Process of Making Same. Hermann Fritzsch, of West Didsbury, England, Assignor to the firm the Clayton Aniline Company Limited, of Clayton, Great Britain. U. S. P. 1,864,425; June 21, 1932.

Process for the manufacture of new condensation products, consisting in causing aliphatic aldehydes to react with an aqueous solution or suspension of the products which are obtained by the reaction of aliphatic aldehyde bisulphite compounds with primary aromatic amines.

As new articles of manufacture, the new condensation products which are obtained by causing acetaldehyde to react with an aqueous solution or suspension of the product which is obtained by the reaction of an acetaldehyde bisulphite compound with aniline, which products form light-brown to brown colored, brittle resins which are very valuable as accelerators.

Cellulose Ester Lacquers. Gerhard Steimmig, of Ludwigshafen-on-the Rhine, Germany, Asignor to I. G. Farbenindustrie Aktiengesellscraft, of Frankfort-on-the-Main, Germany, a Corporation of Germany. U. S. P. 1,864,099; June 21, 1932.

A composition of matter comprising 100 parts of cellulose nitrate, 25 parts of an artificial resin obtained from methyl-cyclohexanone, 25 parts of the neutral phthalic ester of ethylene glycol mono-butyl ether, 350 parts of butyl acetate, 100 parts of butanol and 400 parts of a mixture of ethyl alcohol, benzene and benzine.

A composition of matter comprising a cellulose ester, a solvent therefor, and a neutral phthalic ester of a monoalkyl ether of a glycol.

Process of Preparing Cellulose Derivatives from Alkali Cellulose in the form of Pulp Boards by Means of Esterifying and Etherifying Agents in the Gaseous State. Otto Ernst, Kurt Sponsel, and Gerhard Balle, of Hochst-on-the-Main, Germany, Assignors to I. G. Farbenindustrie Aktiengesellschaft, of Frankfort-on-the-Main, Germany, A Corporation of Germany. U. S. P. 1,863,745; June 21, 1932.

A process for the manufacture of cellulose derivatives of the group consisting of cellulose ethers and esters which comprises causing an agent of the group consisting of esterifying and etherifying agents to act in the gaseous state upon an alkali cellulose in the form of a pulp board.

Synthetic Resins. Leo Rosenthal, of Leverkusen-Wiesdorf-on-the-Rhine, Germany, Assignor to I. G. Farbenindustrie Aktiengesellschaft, of Frankfort-on-the-Main, Germany. U. S. P. 1,863,814; June 21, 1932.

The process for the manufacture of synthetic resins which comprises heating crude solvent naphtha boiling at

(Continued on page 433)

Steel
Steam
Platens

JOHN J. CAVAGNARO

Engineers and Machinists
Established 1881

Die
Presses
and Dies

HARRISON NEW JERSEY

This mixer constructed with many new important features desired for efficient mixing operations

Belt or Motor Drive

Complete specifications on request

Plain or Stainless

Cavagnaro-Loomis Vacuum Mixer
(Patented)

Complete line of machinery for Celluloid & Plastic Mfrs.

Special Representative
Evarts G. Loomis
126 So. 14th St.
Newark, N. J.

Bakelite Molding

R

THE RECTO MFG. CO.
Cincinnati, Ohio
Appleton and B. & O. R. R.

EXPERIENCE:
Extends over a period of years which enables us to design and build all types of moulds and to make plastic moulded articles in any mouldable shape.

QUALITY:
The mould is the cradle of the moulding trade. We make all our moulds thus insuring the highest quality of moulding equipment.

We solicit your inquiries.

PLASTIC MOULDING
KUHN & JACOB
MOULDING & TOOL CO.
503 PROSPECT ST. TRENTON, N. J.

N. Y. Office Phone Defender 3-6442
Phila. Office Phone Pennypacker 3646
Detroit Office Phone Trinity 2-0122

IS YOUR PLANT READY
To Meet
THE DEMANDS
of
RENEWED BUSINESS ACTIVITY?

Many organizations have been using the lull in business, to carry on much needed mechanical development and research with a view of increasing production at reduced cost.

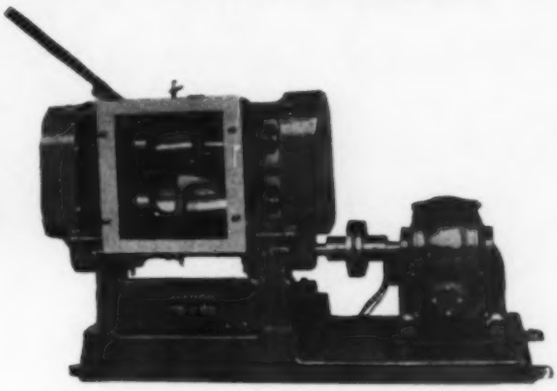
That's Foresight!

The mechanical laboratory and shop of the Evarts G. Loomis Company together with experienced engineers can offer you valuable assistance in the solution of your problems.

EVARTS G. LOOMIS COMPANY
126 So. 14th St. Mechanical Engineers Newark, N. J.

New Tools for Research to help you establish THAT NEW PRODUCT

In operating position with air-tight cover in place.



In discharging position, cover removed.

Our latest model Laboratory Mixing and Kneading Machine direct driven by geared-head motor makes a neat and compact unit. Illustrations show jacketed Size 6 Mixer fabricated of 18-8 chrome nickel iron, with serrated blades and saddle.

Write for information on our special machines of this type, built for operation under high vacuum and under high internal pressure.

And Remember—whatever you knead in Plastics, there is a W & P Mixer & Kneader designed expressly for the job.

Or if it is a dissolving problem, ask us for information on our new high speed Dissolver.

BAKER PERKINS COMPANY, Inc.

WERNER & PFLEIDERER DIVISION

MAIN OFFICE AND PLANT IN SAGINAW, MICHIGAN

Sales offices in New York, Buffalo, Chicago, and San Francisco

European Associates: Baker Perkins Ltd.—England
Werner & Pfleiderer Co.—Germany

ADVANCE • ADVANCE • ADVANCE • ADVANCE •

UREA

UREA - A
HIGHEST PURITY

UREA - T
TECHNICALLY PURE

ADVANCE SOLVENTS & CHEMICAL CORPORATION
245 Fifth Avenue, New York, N. Y.
Dept. S AShland 4-7055

DIES and MOLDS for PLASTICS

Completely equipped shop for handling the more intricate die work necessary in present molding requirements.

Consult us on your needs.

MDTC

MECHANICAL DIE and TOOL CO., Inc.
11 New York Avenue, Brooklyn, N. Y.
If it can be molded we can furnish the Molds.

A Cast Phenolic Resin

Real Marblette

The Jewel of Modern Industry

IN practically every industry of importance there is a possibility of applying Marblette to make a useful and attractive product more beautiful.

Marblette is cast in over 150 standard shapes such as round, square and hexagon rods; blocks, sheets and tubes. At present we are casting over one hundred special shapes for a large number of concerns making a diversified line of products.

There are 120 beautiful colors from which to make a selection.

Samples, Dimension Sheet, Written Working Instructions and List of Colors on Request.

INSIST ON REAL MARBLETTE

The

MARBLETTE

CORPORATION

37-21 Thirtieth Street Long Island City, N. Y.

Telephone: Ironsides 6-8262

Western Office:
8647 Woodward Ave.,
Detroit, Mich.
Telephone: Madison 7052

New England Office:
54 Filbert St.,
New Haven, Conn.
Telephone: New Haven 2-0743

Enlarging the Market for Molded Products

(*Continued from page 416*)

of their own accord, or to struggle in an over-competitive market with price as the chief incentive—and in these days, dependence upon price alone means prices below the cost of production.

To sum up what I have said, I think the molded plastics products industry suffers from a want of public recognition of it as an industry, from a lack of general appreciation of the great value of its product, and from the failure to develop a demand for its products along independent, creative lines.

I believe that immense possibilities lie before the industry if it corrects these deficiencies: and I feel sure that the industry's salesmen will be at the forefront of any progressive movement that industry may decide to initiate.

Peace Time Artillery

(*Continued from page 420*)

guns, the cellulose is collected and dried. Such material now finds ready use in the preparation of compounds widely useful in industry. It forms excellent material upon which to carry out an etherification for the preparation of such compounds as benzyl ether by treatment with caustic soda and benzyl chloride according to the methods developed by Lilienfeld and others, or for the preparation of cellulose acetate or other cellulose derivatives by the usual methods, such as by treatment with mixtures of anhydrides and acid. This preliminary treatment of the cellulose has been found to be much more effective than merely grinding or cutting the fibers, the former merely flattening the cellulose fiber and substantially closing the central canal, and the latter accomplishing little by way of increasing the reactive surface.

APPENDIX

(1) 707,892., Anderson, Art of Treating Starch Material, August 26, 1902.
(1A) 766,212., Anderson, Cereal Product, August 2, 1904.
(2) 769,289., Anderson, Adhesive, September 6, 1904.
(3) 769,290., Anderson, Adhesive Wafer and Preparing Same, September 6, 1904.
(4) 874,279., Anderson, Art of Baking, December 17, 1907.
(5) 990,093., Anderson, Art of Treating Maize or Indian Corn, April 18, 1911.
(6) 1,035,835., Anderson, Art of Treating Starch Materials, August 20, 1912.
(7) 1,035,836., Anderson, Art of Puffing Starch Contajning Flours, August 20, 1912.
(8) 1,035,837., Anderson, Art of Treating Starch and Product, August 20, 1912.
(9) 1,035,838., Anderson, Art of Treating Cereal Grains and a Product Thereby Obtained, August 20, 1912.
(10) 1,035,839., Anderson, Art of Treating and Drying Cereal Grains, August 20, 1912.
(11) 1,035,840., Anderson, Apparatus for Puffing Starch-Containing Material, August 20, 1912.
(12) 1,035,841., Anderson, Cover or Closure for Receptacles, August 20, 1912.
(13) 21,077., Lyman, Separating the Fiber of Wood, August 3, 1858.
(14) 70,474., Russell and Howland, Preparation of Paper-Pulp from Reeds, etc., November 5, 1867.
(15) 87,387., Allen, Improvement in Valves of Steam-Guns for Separating and Disintegrating Fibres, March 2, 1869.
(16) 88,517., Russell, Improvement in the Valves of Steam Fibre Guns, March 30, 1869.
(17) 1,578,609., Mason, Process and Apparatus for Disintegration of Wood and the Like, March 30, 1926.
(18) 1,586,159, Mason, Low-Temperature Explosion Process of Disintegrating Wood and the Like, May 25, 1926.
(19) 1,655,618., Mason, Apparatus for and Process of Explosion Fibrat'on of Lignocellulose Material, January 10, 1928.
(20) 1,663,503., Mason, Process of Making Structural Insulating Boards of Exploded Ligno-Cellulose Fiber, March 20, 1928.
(21) 1,663,505., Mason, Hard Grainless Fiber Products and Process of Making Same, March 20, 1928.
(22) 1,329,353., Anchors, Chemical Process for Making Nitrocarbohydrates, February 3, 1920.
(23) 1,376,598., Anchors, Method of Making nitrostarch and the like, May 3, 1921.

New Material Opens New Markets

(*Continued from page 418*)

this practice can be very unprofitable.

Another very important feature is the design of molded jars. Amateurish design can spoil the jar market for the entire industry. Merely to indicate a suggested form for molded jars, and to keep the more expensive molded jar from imitating its cheaper predecessor, the opal glass jar, General Plastics commissioned one of the foremost cosmetic package designers in the country, Simon de Vaulchier, to create an ultra-practical and attractive container. Two of his recent copyrighted models illustrate his methods. They are designed for outside bayonet threads, while one of them is also extremely simple

America's Foremost MOLDERS

AMERICAN RECORD CORPORATION

ARC-Phenolic Moldings are *always dependable.* They are uniform in quality, uniform in dielectric strength.

We have had fifty years experience in quality molding and we use only the finest tool-steel moulds. Consequently our expert craftsmen produce molded parts noted for their absolute precision to the most exacting specifications.

We invite your inquiry.

SCRANTON FOR 50 YEARS SB BUTTON BRAND

AMERICAN RECORD CORPORATION
ARC
Scranton, Pa.

NEW YORK	1776 Broadway
DETROIT	145 Eastlawn Ave.
CHICAGO	549 W. Randolph St.
CLEVELAND	4900 Euclid Blde.
HOLLYWOOD, CAL.	933 Seward St.

CELLULOSE ACETATE
TRIPHENYL PHOSPHATE
DIBUTYL PHTHALATE
DIETHYL PHTHALATE
ACETIC ANHYDRIDE
SODIUM ACETATE
CRESYLIC ACID
TRIACETIN
CASEIN
for all purposes

American-British Chemical Supplies, Inc.
180 Madison Avenue New York, N. Y.
Ashland 4-2265

AICO

AMERICAN INSULATOR CORPORATION

America's Most Progressive Custom Molders

Molded Products of Every Description

Bakelite — Durez
Cold Molded — Braylite
Lumarith — Beetle

NEW FREEDOM, PA.

Sales Offices:

New York—Graybar Bldg. — Detroit—2-203 General Motors Bldg.
Chicago—11 S. Desplanes St. — Philadelphia—140 Roumfort Ave., Mt. Airy

Hydraulic Operating Valves

Fig. 1

Fig. 1 represents a valve for operating Semi-Automatic Presses for Hot or Cold Molding, using high and low water pressures and Relief, either with or without single or double "Pull-Back" cylinders. The operating lever can be placed in any position shown in Fig. 2.

Made in several sizes for use on large or small presses.

Also Angle, Globe and Pilot Valves of various sizes, Safety Valves, and Eccentric Quick-Opening Valves.

Hydraulic Fittings, Pressure Pumps, Accumulators, Steam Plates, Etc.

Our experience of over fifty years is at your service. Let us help you solve your pressing problems.

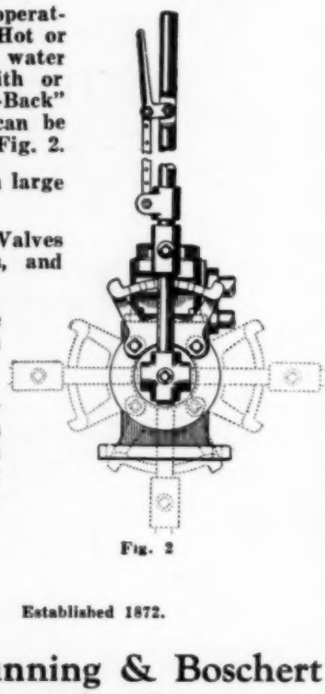


Fig. 2

Established 1872.

The Dunning & Boschert Press Co., Inc.

330 West Water St., Syracuse, N. Y.

and chaste both to simplify tooling and molding, and to provide for high-speed packing.

Other Markets

Of course, the cosmetic jar market is not the only one into which this new material will fit. There are quite a number of places around the kitchen where the colors will be found useful, on kitchen utensils, for handles, knobs, fixtures, for mechanical appliances such as mixers, juice extractors, etc. Its unusual high resistance to heat will find it many applications. Around soda fountains it can be used wherever inertness, resistance to moisture and impact is required, such as cup-holders, sundae dishes, etc. Bathroom fittings, refrigerator parts, and a host of more obscure places are logical markets, to say nothing of the many other chemical containers and receptacles which must endure hard usage.

Coming—Creaseless Textiles

(*Continued from page 417*)

per cent and the wet strength sometimes as much as 100 per cent. This is particularly important for rayon fabrics with their notoriously weak strength when wet. It is also claimed that the process lessens shrinkage in the wash.

The new process will add very little to the cost of cloth. Men's ties made of anti-crease cotton and cotton and rayon mixtures are already on the market, and here the process may create a new outlet for cotton. For example, a high-grade anti-crease poplin may well divert some of the trade from real silk. The main field of application, however, will be for women's dress goods and for fashion materials.

Kenneth Lee, chairman of Tootal Broadhurst Lee Co., gives the following details of the process additional to those already disclosed:—

"We have found a means of putting a synthetic condensa-

tion product inside the cotton hair inself, and inside the rayon filament. The condensation product has been put inside the hairs, or filaments, which are spongy substances, just like a dye has gone into a properly colored cloth, and this has given the cotton and rayon wool-like properties.

"The synthetic resin has the advantage of adding to the weight of the material and as it is cheaper than cotton and the method of applying it is not expensive, it can be used for a very large range of fabrics. It is well known that when certain goods made from rayon are washed they often prove to be rotten; our process prevents this danger."

The process has been provisionally patented in 20 countries and Kenneth Lee is shortly leaving for the United States to arrange for the exploitation of the new process there. It will provide an immense new outlet for synthetic resin.

Technical Abstracts

(*Continued from page 427*)

a temperature of between about 160 and about 180°C. in which a phenol is present in an amount of between about 10%, calculated on the amount of indene, and about 10%, calculated on the amount of the resinifiable substance present in the solvent naphtha, with ferric chloride at a temperature of between about 20 and about 60°C., diluting the reaction mixture with a solvent for the resin of the aromatic liquid hydrocarbon series, separating the liquid from the precipitate formed, and stirring the liquid with calcium oxide and with fuller's earth, thereby heating the same, filtering and distilling off the solvent.

Process for Making Resins. Hans Goldschmidt, of Berlin-Grunewald, and Oskar Neuss, of Berlin-Charlottenburg, Germany; Mrs. Marie Isolina Goldschmidt, Administratrix of said Hans Goldschmidt, Deceased, Assignors, by Mesne Assignments, to Synthetic Plastics Company, Incorporated, of New York, N. Y., a Corporation of Delaware. U. S. P. 1,865,398; June 28, 1932.

The herein described process of making artificial resins characterized in that formaldehyde and urea are heated and have added thereto an acid condensation means in addition to the acid normally found in commercial formaldehyde, such acid condensation means being added in sufficient quantities to accelerate appreciably the condensation of the for-

Have You a Molding Problem?

Resinox dependable quality plus Resinox service is almost certain to solve the most difficult molding problem.

On difficult molding jobs, you may find Resinox technical service to be helpful. Many molders have found it so.

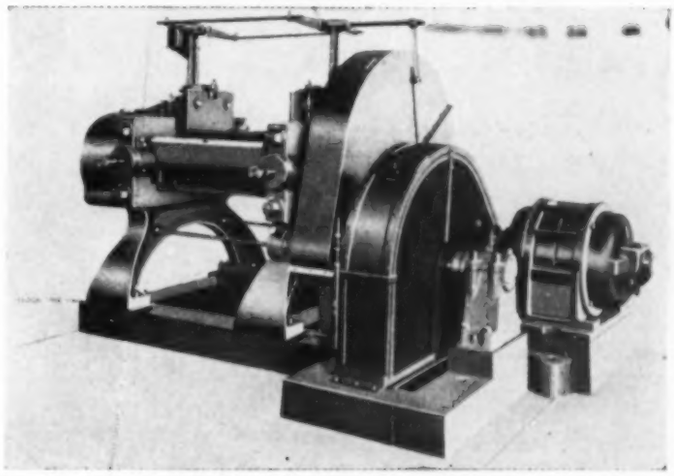
RESINOX

MOLDING RESINS MOLDING COMPOUNDS
LAMINATING VARNISHES

RESINOX CORPORATION

A SUBSIDIARY OF COMMERCIAL SOLVENTS CORPORATION AND CORN PRODUCTS REFINING CO.

230 PARK AVENUE NEW YORK CITY



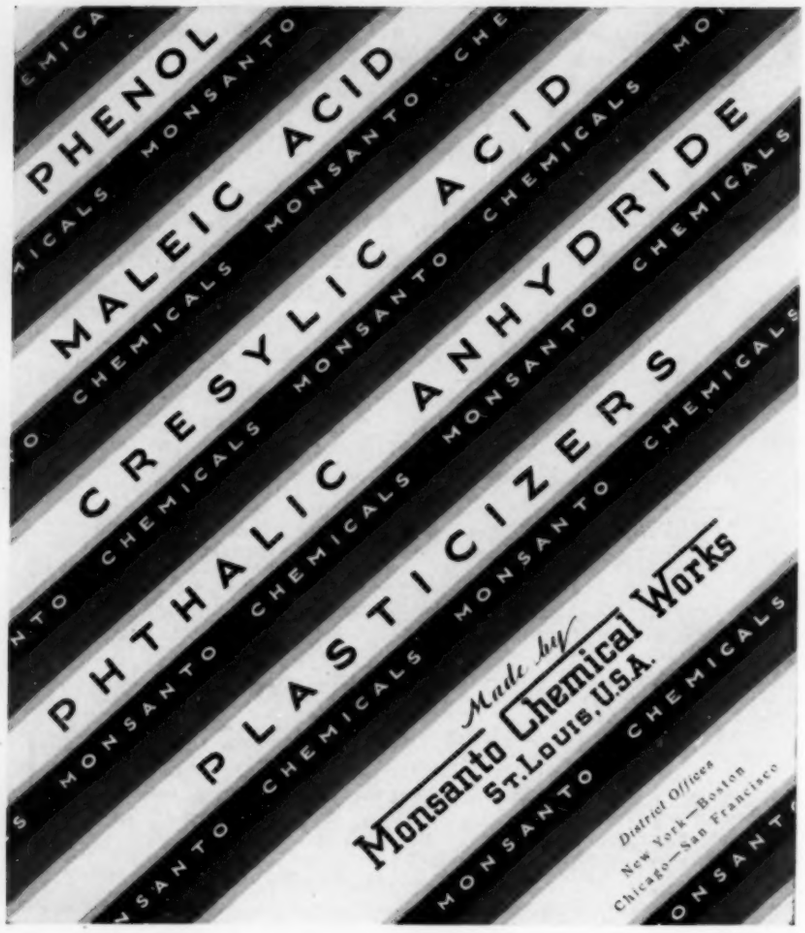
14x30 rolls for plastic mixing

Following carried in stock: 6 x 16—10 x 24—14 x 30—16 x 42. Specially designed for mixing Durez, Bakelite, Asphalts, and Shellac Compound materials.

The largest and oldest manufacturers are using our machines.

WM. R. THROPP & SONS CO.

Established 1888 **Trenton, N. J.**



"Standard"

POWER JIG SAWING MACHINE

BALL BEARING

Faster and better jig sawing with the new "STANDARD" machine.

IMPROVEMENTS INCLUDE:
—Ball bearing countershaft.
—Longer stroke.
—Quicker starting and stopping.
—Heavier arm and ball bearings eliminate vibration.
—New oiling system.
—Can be furnished with motor drive.

No. 1 machine has 9" swing between saw and arm.

No. 2 has 16" swing.

WE ALSO FURNISH
SAW BLADES
JIG SAW WIRE
JIG SAW VISES

We specialize in MACHINES, TOOLS and DIES for working CELLULOID, GALALITH and similar plastic materials.

STANDARD TOOL COMPANY

75 WATER STREET LEOMINSTER, MASS.

maldehyde and urea and the quantity of such acid condensation means being small enough that the gel arising upon cooling of the reaction mixture gives, upon subsequent hardening a glass clear homogeneous end product.

The herein described process of making artificial resins which consists in heating formic aldehyde and carbamid together with an oranic body of acid character which is capable of forming condensation products of resinous character with the formic aldehyde.

Manufacture of a New Composition of Matter With a Base of Cellulose Esters. Oskar Loehr, of Uerdingen-Niederrhein, Germany, Asisgnor to I. G. Farbenindustrie Aktiengesellschaft, of Frankfort-on-the-Main, Germany. U. S. P. 1,865,196; June 28, 1932.

A composition of matter comprising a cellulose ester and an ester of a polyglycol-monoalkylether boiling above about 300°C., said composition being excellently suited for the manufacture of artificial masses, lacquers, artificial leather and the like.

Synthetic Resin. Leo Rosenthal, of Vohwinkel, near Elberfeld, Germany, Assignor to I. G. Farbenindustrie Aktiengesellschaft, of Frankfort-on-the-Main, Germany, a Corporation of Germany. U. S. P. 1,863,881; June 21, 1932.

In the process for the manufacture of synthetic resins the step which comprises treating crude solvent naphtha to which a phenol is added, with ferric chloride.

The process which comprises treating crude solvent naphtha to which a phenol has been added, with ferric chloride, diluting the reaction mixture with a liquid aromatic hydrocarbon, separating the liquid from the precipitate formed, and treating the liquid with calcium oxide and with fuller's earth.

Method of Manufacturing Cellulose. Joaquin Julio de la Roza, Sr., of Tuinucu, Cuba. U. S. P. 1,864,985; June 28, 1932.

A method of treating sugar cane fiber to produce cellulose of high alpha content, which includes, treating the fiber with a dilute sulphurous acid solution containing no base and thereafter treating the fiber with a dilute alkaline solution.

Synthetic Resin. Alphons O. Jaeger, of Mount Lebanon, Pennsylvania, Assignor to the Selden Company, of Pittsburgh, Pennsylvania, a Corporation of Delaware. U. S. P. 1,864,909; June 28, 1932.

A synthetic resin of the polyhydric alcohol organic acid type in which a portion of the acid is replaced by a phthalide substance.

Process for Making Esters of Butyl Alcohol. Russell B. Crowell and Samuel Ray Ebe, of Agnew, California, Assignors to the American Solvents and Chemical Corporation, of New York, N. Y., a Corporation of Delaware. U. S. P. 1,864,893; June 28, 1932.

The process of making dibutyl phthalate which comprises reacting phthalic anhydride and butyl alcohol in the presence of a strong mineral acid catalyst, and subjecting the reaction mass to vacuum distillation at a temperature substantially within the range of 82° to 87°C. as the reaction proceeds to remove the water being produced in the form of a binary mixture of butyl alcohol and water.

Decorative Material. William Bowker, of Newark, and James F. Walsh, of East Orange, New Jersey, Assignors to Celluloid Corporation, a Corporation of New Jersey. U. S. P. 1,864,794; June 28, 1932.

An article having decorative effects comprising masses of a translucent thermo-plastic composition of substantial configuration having therein flat light reflecting particles, the flat surfaces of which are in a large number of planes, incorporated in a mass of differently colored substantially opaque thermoplastic material, the whole being in the form of an integral composition, which when cut in substantially any plane presents light reflecting areas simulating mother of pearl effects in said translucent composition.

Process for Reducing the Viscosity of Cellulose Ethers. Ebenezer Emmet Reid, of Baltimore, Maryland, Assignor to E.I. Du Pont Re Nemours & Company, of Wilmington, Delaware a Corporation of Delaware. U. S. P. 1,864,554; June 28, 1932.

The process of reducing the viscisity of a cellulose ether which comprises bringing an acid gas in contact with a charge of the ether of cellulose.

Process of Preparing Cellulose Ethers. George W. Miles, of Boston, Massachusetts, Assignor to Celanese Corporation of America, A Corporation of Delaware. U. S. P. 1,864,546; June 28, 1932.

Method of preparing cellulose ethers comprising treating an alkali cellulose which contains 140 to 200 parts of an alkali solution corresponding to 15 to 20% solution of caustic soda and 100 parts of cellulose with an etherifying agent in amounts equal to 5 to 9 molecular proportions for each molecular proportion of cellulose present and causing etherification of the cellulose to proceed by adding alkali in solid form in increments in amounts sufficient to react with the etherifying agent present at temperatures ranging from room temperatures to 60° C.

Golf Tee and Method of Making the Same. Alan L. Becket, of East Orange, New Jersey. U. S. P. 1,-864,516; June 28, 1932.

As an article of manufacture, a piece of semi-rigid material having therein a series of non-parallel frangible fins so positioned that each two consecutive fins converge and describe the outline of a pointed golf

(*Continued on page 436*)

WHATEVER YOUR
MOLDED PRODUCT IS
WATSON-STILLMAN
HAS A PRESS
FOR ITS PRODUCTION

Here is a press set up to make tube caps.

For molds that must be stripped on the Bench.

It has push back cylinders to open mold.

Quick Operating
Short Stroke
Easy Control

Just one of many types for every molding problem.

Write for Bulletins

THE WATSON-STILLMAN CO.
118 ALDENE ROAD **ROSELLE, N. J.**

UREA CHEMICALLY PURE

UREA TECHNICALLY PURE

CAMPHOR SYNTHETIC

Manufactured by Schering-Kahlbaum, A. G., Berlin

SOLE IMPORTERS AND DISTRIBUTORS

SHERKA CHEMICAL CO., INC.

75 WEST STREET
NEW YORK

TELEPHONE: BOWLING GREEN 9-7482

FINE HEYDEN CHEMICALS

FORMALDEHYDE
PARA FORMALDEHYDE
HEXAMETHYLENAMINE

Long experience in the manufacture of these products enables us to meet the individual requirements of the Plastic Trade.

HEYDEN CHEMICAL CORPORATION

50 UNION SQUARE, NEW YORK CITY
180 N. WACKER DRIVE, CHICAGO, ILL.
Factories:
Garfield, N. J. Perth Amboy, N. J.

GUSTAVUS J. ESSELEN, PH.D.
CHEMIST AND CHEMICAL ENGINEER

Experienced in the solution of problems of

RESEARCH
DEVELOPMENT
PRODUCTION
EVALUATION

—for the Plastics Industry

Cellulose Plastics ::
:: Synthetic Resins

73 NEWBURY ST., BOSTON

tee shank, the material at the edge of said semi-rigid piece flaring out to form a series of recessed heads or caps which are integrally pointed to the upper ends of said shanks, said semi-rigid piece being convertible into a plurality of golf tees by breaking said semi-rigid piece along the said frangible fins.

A plurality of moulded golf tees formed in a single unitary circular piece having frangible connecting fins joining said tees together, each tee comprising a pointed shank and a head recessed to receive a golf ball, the pointed end of each such shank lying substantially at the center of said circular piece and the heads of said tees lying substantially at the circumference of said circular piece, and each tee being disengageable from the unitary circular piece by breaking the frangible connecting portion of said moulded material that joins the said tees together.

Fabricated Golf Club Head. Jack H. Balch, of Chicago, Illinois. U. S. P. 1,864,513; June 28, 1932.

A golf club head comprising a body and a shaft receiving neck composed of superimposed layers of fabric impregnated with a plastic composition and vulcanized together, certain of said layers of fabric being of lengths to extend from the toe of the body to the free end of the neck and being curved transversely of themselves adjacent the heel of the body whereby to constitute said neck as an integral portion of the body, and the others of said layers being alternately arranged with respect to the first mentioned layers and being of lengths to extend from the toe to the heel of the body, said neck being formed for connection with a club shaft.

Cellulose Nitrate Lacquer. Otto Jordan, of Ludwigshafen-on-the-Rhine, Germany, Assignor to I. G. Farbenindustrie Aktiengesellschaft, of Frankfort-on-the-Main, Germany, a Corporation of Germany. U. S. P. 1,865,191; June 28, 1932.

A lacquer for application by spraying comprising cellulose nitrate, an artificial cyclic getone resin, and a solvent containing at least 20 per cent of a dialkyl-ether of propylene glycol corresponding to the general formula RO—C_3H_6—OR′ (in which R. indicates an alkyl group with from 1 to 4 carbon atoms and R′ means an alkyl group with from 2 to 4 carbon atoms).

News of The Industry

(Continued from page 425)

BRITISH NOTES

Acetate Products Reorganizes

PLANS are now under way for the reconstruction of the Aceate Products Corporation, Ltd., at present in liquidation. W. T. Harvey, formerly chairman of Acetate Products, Ltd., has placed before the stockhold-

ers proposals for the formation of a new company with a nominal capital of £55,000 ($275,000) divided into 550,000 shares of 2s. (48 cents) each.

The liquidator proposes to sell the assets of the old company for £65,000 ($325,000), which will be satisfied by allotting to him the 550,000 shares, together with a cash payment of £10,000 ($50,000) to discharge in full the creditors of the existing corporation and pay the cost of liquidation. To provide this sum and working capital it is proposed to issue £55,000 debentures (out of a total of £100,000 debentures to be created), such stock to carry interest at the rate of 8 per cent, and also to receive each year one-half of the net profits available for distribution. It is estimated that out of this £55,0000, after providing for payment of the liquidator, costs of formation, etc., there will be left a sum of £37,500 ($187,500) for working capital.

The principal asset acquired is the fully-equipped factory at Croydon, which was erected at a total cost of £180,000 ($900,000), and about which the liquidator states that: "this asset can only be expected to realize an amount very materially less than its book cost," owing, of course, to its specialized character.

Mr. Harvey estimates that, properly managed and directed, this new plastics enterprise should earn an annual net profit of not less than £20,000 ($100,000), based on an output of 225 tons per annum.

The Institute of the Plastics Industry of the United Kingdom held its first annual meeting in London at the end of October, when members received the report of the Council and the statement of accounts for the year ending August 31. After the meeting concluded its business, F. C. Higgins, a well-known member of the industry read a paper on mould design, construction and maintenance.

Newark Die Co.

INCORPORATED

We Specialize on MOLDS for Plastic Materials

Die sinking, Engraving, Hydraulic Hobbing

24 SCOTT STREET

Newark, New Jersey

Barrel Finishing

OF

PYROXYLIN CASEIN
CATALIN BAKELITE
VEGETABLE IVORY
HORN HARD RUBBER

Bring this over to the profit column

Barrel Finishing Eliminates Buffing Costs

There is no rubbing or tripoli polishing necessary before or after tumbling.
A brilliant and lasting finish is applied to each piece.
Your finishing costs can be materially reduced by this method of Barrel finishing your parts. Write for particulars.

METHODS EQUIPMENT FORMULAE

Rudolph R. Siebert

183 ST. PAUL ST. ROCHESTER, N. Y.

Casein

Its Preparation and Utilization

By

Robert Scherer

List Price $3.50

Special Price $2.75

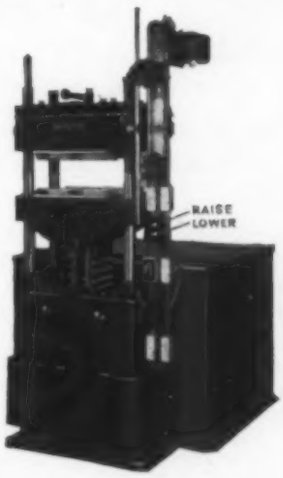
A Number of Copies Available

Plastics Publications, Inc.

Department C

420 Lexington Ave.

New York, N. Y.



look look into the facts and you will find that you can increase your production 50% without adding to your overhead, simply by changing to an

ELECTRO-DRAULIC MOLDING PRESS

Write for full information

TERKELSEN MACHINE CO.

330 A Street, Boston, Mass.

Manufactured in Canada by

CANADA MACHINERY CORP., LTD.
GALT, ONT.

BUYERS' GUIDE

ACCUMULATORS
John J. Cavagnaro
Consolidated Products Co., Inc.
The Dunning & Boschert Press Co., Inc.
Chas. F. Elmes Engineering Works
R. D. Wood
Watson-Stillman Co., The

ALDUR
Aldur Corporation

AMMONIA
Barrett Co.

BEETLE
Synthetic Plastics Co.

BAKELITE
Bakelite Corporation

CASEIN
American-British Chemical Supplies, Inc.

CAMPHOR
Sherka Chem. Co.

CASEIN PLASTICS
American Plastics Corp.

CELLULOSE ACETATE
American-British Chemical Supplies, Inc.
Celluloid Corporation
Eastman Kodak Co.

COTTON FLOCK
Claremont Waste Mfg. Co.
Peckham Mfg. Co.

CRESOL
Monsanto Chemical Works

CRESYLIC ACID
American-British Chemical Supplies, Inc.
Monsanto Chemical Works

CUSTOM MOLDERS
American Insulator Corp.
American Record Corp.
Auburn Button Co.
Boonton Molding Co.
Chicago Molded Products Corp.
Compo-site, Inc.
General Elec. Co.
Imperial Molded Products Corp.
Insulation Mfg. Co.
Kuhn & Jacob
Kurz-Kasch Co.,
Northern Indus. Chem. Co.
Norton Laboratories
Plastic Molding Co.
Recto Mfg. Co.
Reynolds Spring Co.
Shaw Insulator Co.

DRYERS
Consolidated Products Co., Inc.

DUREZ
General Plastics Inc.

DYESTUFFS
Brooklyn Color Works, Inc.
Calco Chemical Co.
General Dyestuff Corp.
National Aniline & Chemical Co.

FORMALDEHYDE
Heyden Chemical Corp.
Roessler & Hasslacher Chemical Co.

GLASS, SILVERED
Standard Mirror Co.

HEAT REGISTERING INSTRUMENTS
Cambridge Instrument Co.
Jewell Electric Instrument Co.

HOBBING
Doerfler Mfg. Co., Inc., L.

LABELS
Economy Ticket & Label Co.

MAKALOT
Makalot Corp.

MALEIC ACID
Monsanto Chemical Works

MARBLETTE
Marblette Corp.

MEASURING MACHINES
F. J. Stokes Mach. Co.

MIRRORS
Standard Mirror Co.

MIXERS
Baker Perkins Co.
Consolidated Products Co., Inc.
E. G. Loomis Co.

MOLDING EQUIPMENT
Fred S. Carver, N. Y.
John J. Cavagnaro
Consolidated Products Co., Inc.
Evarts G. Loomis Co.
Chas. F. Elmes Engineering Works
Southwark Foundry & Mach. Co.
Standard Machinery Co.
Terkelsen Machine Co.
Thropp, Wm. R. & Sons, Co.
Dunning & Boschert Press Co.
French Oil Mill Machinery Co.
Index Machinery Corp.
R. D. Wood Corp.
Watson-Stillman Co., The

MOLD MAKERS
Doerfler, L., Mfg. Co.
Mechanical Die & Tool Co., Inc.
Newark Die Co., Inc.
Wheeler Co., Inc.

MOLDING POWDERS
Aldur Corp.
Bakelite Corp.
General Plastics, Inc.
Makalot Corp.
Synthetic Plastics Co., Inc.

PAPER
Albemarle Paper Mfg. Co.

PHENOL
Barrett Co.
Dow Chemical Co.
Monsanto Chemical Works

PHENOL RESINOIDS
Bakelite Corporation
General Plastics Inc.
Makalot Corp.
Resinox Corp.

PHTHALIC ANHYDRIDE
Monsanto Chemical Works

PLASTICIZERS
American-British Chemical Supplies, Inc.
Monsanto Chemical Works

PREFORMING PRESSES
Arthur Colton Co.
Consolidated Products Co., Inc.
Standard Machinery Co.
F. J. Stokes Mach. Co.

PULVERIZERS
Pulverizing Machinery Co.

PYROXYLIN PLASTICS
Celluloid Corporation
Du Pont Viscoloid Co.
Nixon Nitration Works
Wiggins & Co., Inc., E. W.

SCREWS, SELF-TAPPING
Parker-Kalon Corp.

SWING JOINTS
Evarts G. Loomis Co.
French Oil Machinery Co.

TUMBLING BARRELS
R. R. Siebert

UREA
Advance Solvents & Chemical Corp.
Sherka Chem. Co.

UREA-FORMALDEHYDE RESINS
Aldur Corporation
Synthetic Plastics Co., Inc.

VARNISHES, SYNTHETIC RESIN
Bakelite Corp.
General Plastics, Inc.
Makalot Corp.
Resinox Corp.

WOOD FLOUR
Becker Moore Co.
Burnet Co.
State Chemical Co.

This is a carefully classified index of concerns who specialize in this industry and who advertise regularly in PLASTICS. Please mention PLASTICS when writing to these firms.

Standard Technical Handbooks

Ten per cent discount from publisher's prices on any of the following if ordered with your subscription to Plastics:

		Pages	Price
Brown, B. K.—Crawford, F. M.—A Survey of Nitrocellulose Lacquers	1928	375	7.50
Hedley, Barry T.—The Natural and Synthetic Resins	1926	203	5.50
Condensed Chemical Dictionary	1930	528	10.00
Cross, C. F.—Doree, Charles—Researches in Cellulose Vol. 4	1922	263	6.00
Ellis, Carleton T.—Synthetic Resins and Their Plastics	1923	514	8.00
Hemming, Emil—Plastics and Molded Electrical Insulation	1923	213	6.00
Scherer, A.—Casein—Its Preparation and Utilization		221	3.50
Sutermeister, E.—Casein and its Industrial Applications	1927	296	5.00
Tague—Casein	1926	218	3.00
Handbook of Chemistry and Physics, 13th edition	1928	1300	5.00
Wilson, S. P.—Pyroxylin Enamels and Lacquers	1927	253	3.50

Other books quoted on request.

Book Dept., Plastics---420 Lexington Avenue, New York

Advertisers' Index

Advance Solvents Corp. 429
American-British Chemical Supplies, Inc. 431
American Insulator Corp. 432
American Record Corp. 431
American Plastics Corp. 414
Auburn Button Works, Inc. 440
Bakelite Corp. 409
Baker-Perkins Co. 429
Becker-Moore Co. 441
Boonton Molding Co. 440
Brooklyn Color Works, Inc. 440
Burnet Co., The 441
Calco Chemical Co. 423
Cavagnaro, John J. 428
Chicago Molded Products Corp. 439
Claremont Waste Mfg Co. 441
Compo-Site, Inc. 440
Consolidated Products Corp. 439
Dow Chemical Co. 443
Dunning & Boschert Press Co. 432
Economy Ticket & Label Co. 441
Esselen, Dr. G. J. 416
General Dyestuff Corp. 444
General Electric Co. 412
General Plastics, Inc. 411
Heyden Chemical Co. 436
Imperial Molded Products Corp. 440
Jungmann & Co. 440
Kuhn & Jacob Molding & Tool Co. 428
Loomis Co., Evarts G. 428
Luxite, Inc. 440
Marblette Corp. 430
Mechanical Die & Tool Co. 429
Monsanto Chem. Works 434
Molded Insulation Section, NEMA 410
National Aniline & Chem. Co. 425
Newark Die Co. 437
Plastic Molding Co. 440
Recto Mfg. Co. 428
Resinox Corp. 433
Reynolds Spring Co. 440
Sherka Chemical Co., Inc. 435
Siebert, R. R. 437
State Chemical Co. 441
Standard Tool Co. 434
Terkelsen Mach. Co. 437
Thropp, Wm. R. & Sons, Co. 433
Watson-Stillman Co., The 435
Wheeler Co., The 441

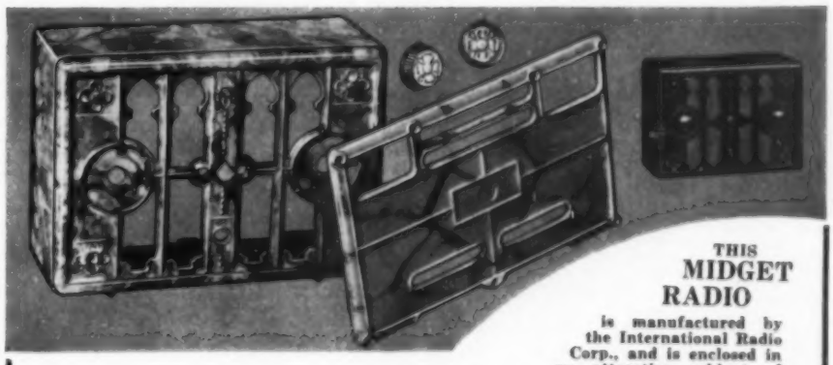
CLASSIFIED ADVERTISING

WANTED:
Man to supply process, select and set up equipment for manufacture of phenol formaldehyde resin for hot moulding compound. Plastics, Box 599.

For Sale complete small Moulding Plant; Three Presses 10"x40"; Colton No. 8 Tableting Machine; Mead Mill; Sifter; Accumulator; Pump, and 15 Horse-Power Motor; trays, Tables, etc.

This plant is in excellent condition hooked up for immediate production, used little. Low rental and steam. Located in Philadelphia. Plastics, Box Number 598.

EXPERT in synthetic resins and plastic compositions, formerly chief chemist of large cold-molding concern, seeks new connection starting January 1933. Research or development work preferable. Plastics, Box 560.



THIS
MIDGET RADIO
is manufactured by the International Radio Corp., and is enclosed in an attractive cabinet of either Bakelite or Plaskon, in various colors.

MOLDED BY
CHICAGO MOLDED PRODUCTS CORP.
2146 WALNUT ST. CHICAGO, ILL.

GOOD USED MACHINERY

Every item shipped from our shops at Newark, N. J., is thoroughly overhauled and rebuilt.

PREFORM MACHINES—1—Single Punch, motor driven Machine, up to 4"; 1—Stokes Rotary "D" 16 punch, motor driven, up to 1"; 1—Fraser Machine, up to 2".
MIXERS—3—Werner & Pfleiderer Steam Jacketed Mixers, 100 gals.; 1—Day Mogul Jacketed, two Sigma Blades, 5 gals.; 2—No. 3 Banbury Mixers.
STILLS—2—Aluminum Steam Jacketed Still with condensers, 400 gals. each; 1—Copper, Steam-jacketed Still, 400 gal.
PULVERIZERS—All types of Hammer Mills; Raymond and other makes of fine Pulverizers; Crushers, all sizes and types. Send for Bulletin No. 14.
MISCELLANEOUS—Hydraulic Presses, Vibrating Screens, Mixing and Converting Rolls, Color Grinding and Mixing Equipment, Vacuum Shelf Dryers, Filter Presses, Impregnators, Kettles, Masticators, Pumps, Tanks, etc.

We Pay Cash For Your Idle Machinery—
Single Items or Complete Plants.

Consolidated Products Co., Inc.

Barclay 7-0600 13-14 Park Row, NEW YORK CITY
Visit our shops and yards at Newark, N. J., covering six acres.

THIS REMINDS ME!

THAT . . . the hardware stores offer good outlets for plastic-ware . . . those we have inspected carry both the domestic ureas and the imported Taumalit . . . *that* . . . the finest new products from this industry will be seen at 65 East 56 Street, New York, during January . . . exhibited by the National Alliance of Art and Industry . . . *that* . . . New lines of pyroxylin toilet-ware are decorated with inlaid metal . . . *that* . . . new molded jars are being marketed by Beetle and Durez . . .

A manufacturer, contemplating a molding job, has often been deterred by the cost of the original mold. This is especially true when the article is to have a limited outlet until proper sales channels can be developed. While practically every custom molder has some stock molds, one of which might be suitable for the initial run, very few buyers knew where the particular mold needed could be secured.

So PLASTICS takes a hand. We start this month by presenting the first four pages of a Stock Mold Catalogue, and we will publish a similar number every issue until all the important molds have been described.

But perhaps, Mr. Manufacturer, you can't wait to locate your particular mold? Then write us, tell us what you need, and we will give you advance information.

Does this remind *you* that you need a new handle, knob, clock-case or whatnot?

The Plastic Molding Company

Sandy Hook, Conn.

Completely equipped for hot or cold CUSTOM MOLDING

Boonton Molding Co.
Boonton, New Jersey

Synthetic Resin specialists for all types of compounds

Modern, Experienced, Economical
New York Office, 30 Church St.

Reynolds Spring Company

Molded Plastics Division

Jackson, Michigan

Bakelite, Beetle, Durez, Plaskon

IMPC

Dependable Molding Service
All Makes of Materials

Imperial Molded Products Corp.
2925 W. Harrison St.
Chicago, Ill.

Buying space in this section, you secure the yearly rate on larger space when you wish to use it a few times during the year.

COLORS

for the plastic trade.
Get our samples

BROOKLYN COLOR WORKS, Inc.
129-143 Cherry St. Brooklyn, N. Y.

We Specialize in

HOBBING AND DIE SINKING

for Bakelite and Composition Molds. Send your Blue Prints for estimating.

L. Doerfler Mfg. Co.
24 Scott St., Newark, N. J.

Some of the present largest advertisers and most successful concerns started with small space persistently used.

Compo-Site, Inc.

Molded Products

Office and Works, 207-215 Astor St.
Newark, N. J.

Established 1910
Geo. J. Crossman, Pres.
Service and Quality

BLOOD ALBUMEN

Special Finely Powdered Grade For Making Plastics

JUNGMANN & CO.
Incorporated

DIRECT IMPORTERS

5 DESBROSSES ST., NEW YORK

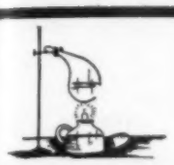
RESIN SPECIALISTS

Phenol Resins — LUXITE — Urea Resins

LUXITE, INC.
459 Park Square Bldg. Boston

The Oldest and Finest Plant in the world

CELLULOID-BAKELITE DIVISION
Auburn
BUTTON WORKS, Inc.
AUBURN, N.Y.



Materials
for the Plastics Industries

WOOD FLOUR
AN IDEAL FILLER FOR PLASTICS

—

BECKER, MOORE & CO., INC.
NORTH TONAWANDA, N. Y.

—

Largest Manufacturers

WHEELER CO.
INCORPORATED

ENGINEERS
DESIGNERS

✦ ✦ ✦

We Specialize on Molds
For Plastics Materials

✦ ✦ ✦

If it can be molded we can build the mold.

✦ ✦ ✦

RAILROAD, PA.

Natural or Dyed Cotton Flocks of Superior Quality

We are suppliers to all the leaders in the Plastic Molding Industry.

THEY KNOW QUALITY!

Write for samples and quotations

Claremont Waste Mfg. Co.
CLAREMONT, N. H.

Cellu-Gummed Labels

That stick to Pyroxylin Plastics.

Also Regular Gummed and Ungummed Labels, printed, plain, embossed, die cut, Cardboard Tags, printed and blank.

Economy Ticket & Label Co.
552 7th Ave., New York City

Established 1889

The Burnet Company
292 PEARL STREET
NEW YORK

Telephone
BEekman 3-2287

DOMESTIC & IMPORTED
WOOD FLOUR
Sole Selling Agents for the
NEW ENGLAND WOOD FLOUR MILLS, INC.
Manchester, N. H.
Inquiries Solicited

IMPORTERS
WOOD FLOUR
VARIOUS GRADES
FOR
Composition Work

State Chemical Co.
80 WEST HOUSTON ST.
NEW YORK CITY

Casein Dried Blood Synthetic Resins Artificial Horn

ARE YOU INTERESTED IN ENTERING THE
PLASTICS FIELD

If so, consult me for Installation, Formulae and Methods.

HEINRICH PREHN
Naumburg-Saale Germany

And Now, In Closing:

NOT at all abashed by the stringency of the times, new things keep coming in . . . Rescolite is the name of a new plastic . . . promoted by Wales (ex-Celeron) and Cox (ex-Durez) . . . Plaskalite is another, coming from Chester, West Virginia . . . And New York City has the Organic Plastics, Inc. . . . Then, among the molders, we pick up the following . . . Fred Allen, for many years the first name of Allen & Hills, is starting his own plant at Union Springs, New York . . . he acquires part of his equipment from the old Molded Plastics . . . Harry Randall, General Electric, will henceforth devote his time to G-E's laminated . . . And, speaking of laminated, J. N. Taylor's plant should be in production early in '33 . . . The Kurz-Kasch Receiver, Davidson, is considering a bid made by a group of Dayton business men . . . The Molding Corporation of America, Providence, goes into Receivership . . . it was headed by Earnest Kauer, former Ceco president, and also had Mautner and O'Koomian (ex-Modern Molded) . . . the last mentioned, we understand, acts as Receiver . . . If there is such a place as Grenloch, New Jersey, then J. M. Hyde has started in molding there . . . G. E. Lewis resigned from the Resinox Corporation on November first . . . T. L. Thomas, who works for American Record in Scranton, has a fine barytone voice . . . it wins him a place in the final Atwater Kent contest . . . we hope he comes to the next General Brock meeting! . . . J. H. Williams will represent F. J. Stokes in Cincinnati . . . Simmons' Zalmite — remember the "peanut shells and burlap" report in *Barron's*?— steps out beautifully to cover card tables. . .

JUST as we go to press we learn, with deep regret, of the death of Mr. John H. Stevens. A pioneer Celluloid manufacturer, identified with the Celluloid Corporation for many years, Mr. Stevens passed away at his home in South Orange, New Jersey, at the age of 79. He will never be forgotten by those who knew him, and his researches and developments will perpetuate his name in the Honor Roll of Industry.

WE have received a letter from C. J. Groos, Acting Secretary of the New York Molders' Representatives, regarding the data on Stock Molds which we inaugurate on page 421 of this issue. Taking up the need for such information, Mr. Groos writes as follows:

"A hesitant buyer will often purchase a small quantity of stock parts and make them serve his purpose until the probable sale of his article or apparatus has been determined. Therefore very often the sale of a few hundred knobs or handles will open the way to custom orders of larger volume. The publication of information recording available equipment should have advantages for both buyer and seller; the buyer perhaps avoiding tool charges, the seller securing increased production from molds at hand.

Your publication offers the best medium of broadcasting this information. We feel sure that this initial effort of the Representatives group will be more appreciated when you have completed the work."

This letter makes clear the value of this information, when confined to practical, workable standards. Our subscribers should clip the page from this issue and each succeeding one. In time they will have a handy reference list that can be permanently bound or inserted in a loose-leaf binder.

OUR October issue printed, on this page, certain figures on price cutting that first appeared in Printers' Ink. Some of our readers questioned the accuracy of these figures, and, after taking the matter up with Printers' Ink, we find that the table, as they printed it, was incorrect. In a subsequent issue they printed a letter from the American Laundry Machinery Company, sponsors of the survey, stating that the figures were all based on maintaining the same dollar profit and not the same dollar volume of sales. This letter continues as follows:

"We did publish the exact table of figures appearing in your editorial, but we also qualified these figures as applying only to plants doing business on a 25 per cent profit margin and the percentage increases are based on maintaining the same dollar profit.

Furthermore, it is necessary to assume that plants contemplating price cuts are not operating at 100 per cent capacity when the price cuts are made. Otherwise, they would have to increase their investment in equipment in order to handle the increased volume which would change the percentage relationships. This is a natural assumption, however, since plants operating at 100 per cent capacity would not be apt to cut prices."

We hope that this clarifies this matter for our bewildered readers, and regret that we unconsciously gave them incomplete data.

SINCE the next issue will not be mailed until after the holidays, we wish, here and now, a fine Christmas and a better New Year for all our friends and subscribers.